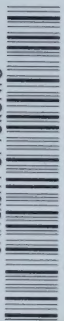
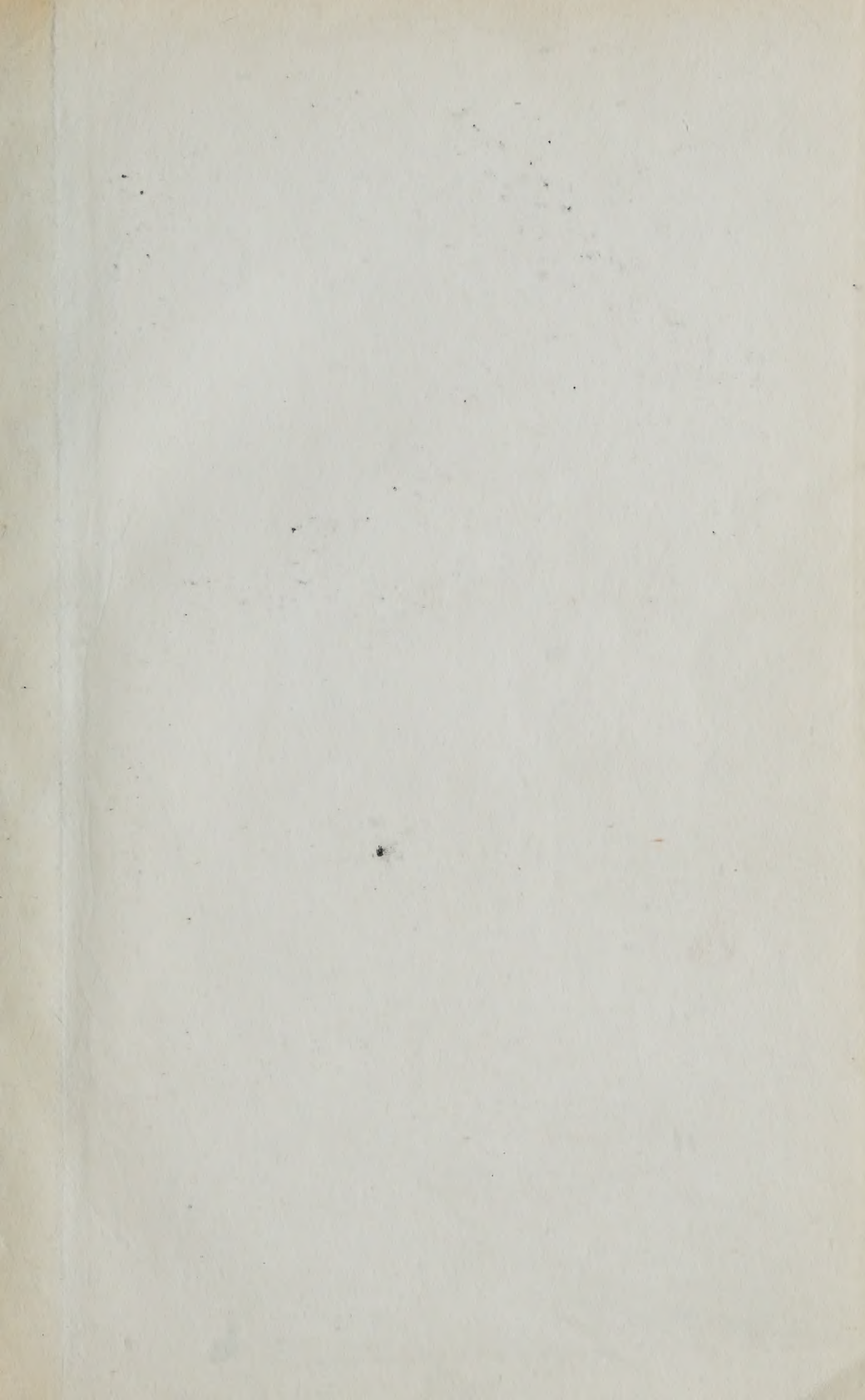


FACULTY OF DENTISTRY LIBRARY
UNIVERSITY OF TORONTO



3 1761 03924596 4

UNIV. OF
TORONTO
LIBRARY





Digitized by the Internet Archive
in 2025 with funding from
University of Toronto

P
M
C

The Journal of the
CANADIAN DENTAL ASSOCIATION

111

Le Journal de
L'ASSOCIATION DENTAIRE CANADIENNE



438592
10. 9. 45

The official organ of the Canadian Dental Association.
Owned and published by the Association.

•

Office of Publication

CONSOLIDATED PRESS, LIMITED, 73 RICHMOND STREET WEST, TORONTO

VOLUME 10 - - - - - 1944

Presented by The University of Toronto

OFFICERS OF THE CANADIAN DENTAL ASSOCIATION FOR 1943-44

PRESIDENT

R. A. Rooney.....Edmonton, Alberta

IMMEDIATE PAST PRESIDENT

A. L. Walsh.....Montreal, Quebec

PRESIDENT-ELECT

Harvey W. Reid.....Toronto, Ontario

SECRETARY-TREASURER

Don W. Gullett.....Toronto, Ontario

EXECUTIVE COMMITTEE

R. A. Rooney (Chairman).....Edmonton, Alberta

Harvey W. Reid.....RK.....Toronto, Ontario

Don W. Gullett.....1.....Toronto, Ontario

Armand Fortier.....C37.....Montreal, Quebec

V. D. Crowe.....v.10.....Truro, Nova Scotia

CHAIRMAN OF COMMITTEES

Dental Legislation.....S. W. Bradley, Ottawa, Ontario

Dental Health and Public Relations.....A. E. Higgins, Toronto, Ontario

Research.....Roy G. Ellis, Toronto, Ontario

Dental Education.....A. L. Walsh, Montreal, Quebec

Canadian Dental Corps.....J. Neil Blacklock, Montreal, Quebec

Finance.....Armand Fortier, Montreal, Quebec

Journal.....Stephen A. Moore, London, Ontario

Health Insurance.....Don W. Gullett, Toronto, Ontario

Indian Affairs.....H. J. Merkeley, Winnipeg, Manitoba

Ethics.....W. W. Woodbury, Halifax, Nova Scotia

Nomenclature.....Roy G. Ellis, Toronto, Ontario

Necrology.....Don W. Gullett, Toronto, Ontario

Committee on International Relations.....Eudore Dubeau, Montreal, Quebec

The Journal of the Canadian Dental Association *Le Journal de L'Association Dentaire Canadienne*

Official Organ of the Canadian Dental Association

Owned and Published by the Association

Subscription Price in Canada, \$2.50 per year; Great Britain, the United States
and all other countries, \$3.00 per year.

Editor-in-Chief

M. H. GARVIN, D.D.S., 314 Somerset Building, Winnipeg, Manitoba

Assistant Editor

T. R. MARSHALL, D.D.S., 1112 Temple Building, Toronto, Ontario

Associate Editors

D. Trevor Waye, D.D.S., Charlottetown, Prince Edward Island

Warren C. Oxner, D.D.S., Halifax, Nova Scotia

Wendell C. Carruthers, D.D.S., West Saint John, New Brunswick

E. M. Laurin, D.D.S., Montreal, Quebec

T. R. Marshall, D.D.S., Toronto, Ontario

J. F. Morrison, D.D.S., Winnipeg, Manitoba

F. C. Harwood, D.D.S., Moose Jaw, Saskatchewan

John Clay, D.D.S., Calgary, Alberta

H. M. Cline, D.D.S., Vancouver, British Columbia

Empire Correspondents

J. B. Parfitt, M.R.C.S. Eng., L.R.C.P. (London), L.D.S., Eng., Reading, England

Bryan J. Wood, L.D.S.R.C.S. (Eng.), London, England

J. Menzies Campbell, D.D.S. (U. of T.), L.D.S., F.R.S.E., Glasgow, Scotland

Percy A. Ash, D.D.S., F.A.C.D., F.F.I.A., Sydney, Australia

J. Reid Burt, L.D.S.R.C.S. (Edin.), University of Otago, Dunedin, New Zealand

H. Goldin, L.D.S.R.C.S. (Eng.), D.D.S., (Michigan), Pretoria, South Africa

R. Ahmed, D.D.S., F.I.C.D., Calcutta, India

U.S.A. Correspondents

John E. Gurley, D.D.S., F.A.C.D., San Francisco, California

Lon W. Morrey, D.D.S., F.A.C.D., Chicago, Illinois

Jerome H. Trier, D.D.S., F.A.C.D., New York City

SECTION FRANCAISE

Comité de Rédaction

Paul Géofrion, B.A., D.D.S., A.I.D.O., (Président), Montréal, Québec

Armand Fortier, D.D.S., (Assistant), Montréal, Québec

Rédacteur

Alcide Thibaudeau, D.D.S., A.I.D.O., 516 est, rue Sherbrooke, Montréal, Québec

Les noms des assistants au rédacteur et des correspondants apparaissent dans la section Française du Journal.

Journal Committee

STEPHEN A. MOORE, D.D.S., (Chairman), London, Ontario

CHARLES H. M. WILLIAMS, D.D.S., B.Sc. (DENT.), Toronto, Ontario

ARMAND FORTIER, D.D.S., Montreal, Quebec

R. P. LOWERY, D.D.S., Toronto, Ontario

Business Administration

D. W. GULLETT, D.D.S., 211 Huron St., Toronto, Ont. - - - Business Manager

H. R. ROLLS, Consolidated Press, Ltd., Toronto, Ont. - - - Advertising Manager

Office of Publication

Consolidated Press, Limited, 73 Richmond Street West, Toronto, Ontario

Branch Offices:

New York, 101 Park Ave. Montreal, New Birks Bldg. Winnipeg, 305 Birks Bldg.

Index to Volume 10—1944

	Page
January	pages 1-56
February	pages 57-104
March	pages 105-154
April	pages 155-204
May	pages 205-250
June	pages 251-300
July	pages 301-348
August	pages 349-382
September	pages 383-424
October	pages 425-468
November	pages 469-514
December	pages 515-578

FRONTISPICES

Kenneth M. Johnson, D.D.S.	2
Gerald D. Stubbs, B.Sc., D.M.D.	58
Dr. Denis Forest	106
A. J. Brett, D.D.S.	156
A. Reginald Winn, B.Sc., D.D.S.	206
Arnold D. Mason, D.D.S., F.A.C.D.	252
F. L. Williamson, D.D.S.	302
W. C. Carruthers, D.D.S.	350
C. S. MacArthur, D.D.S.	384
G. Harrold Campbell, D.D.S.	426
Harold R. Skilling, D.D.S.	470
A. Poyntz, L.D.S., D.D.S.	514

MANUSCRIPTS

A Commentary on Selection of Cases for Fixed Bridge-work and the Three Quarter Veneer Crown—M. I. Averbach	529
Acrylics and Their Uses in Restorative Dentistry—J. S. Dohan	207
Accuracy of the Moulded Acrylic Denture—I. K. Lowry	211
A Review of Operative Procedures with Reference to Technique and Cavity Preparation—George A. Ellsperman	253
Biochemistry in Relation to Dentistry—David L. Thomson	157
Can Specific Infective Factors Operate to Deepen a Pocket—Harold K. Box	427
Convocation Address—Col. G. L. Cameron	303
Case History—William Robb	398
Dental Health—A. E. Higgins	261
Dentistry in a Comprehensive Health Service in Great Britain	394
Denture Splints and Duplicate Dentures—J. R. Hurton	477
Diagnosis of Mandibular Fractures—J. J. Schachter	515
Enameloid Acrylics—Maurice N. Stern	114
Enameloid Acrylics—Jacket Crowns—Maurice N. Stern	308
Keep the Record Straight—Kenneth M. Johnson	122
Modified Immediate Complete Denture Technique—Frank Martin	3
Newer Aspects of Skeletal Fixation for the Fractured Mandible—W. L. Elliot	67
Patient Cooperation—J. G. Elsey	523
Problems in Differential Diagnosis—George A. Morgan	355
President J. C. Flanagan's Address at Montreal Dental Club	11
Prophylactic Use of Sulphonamide Compounds as it Concerns Subacute Bacterial Endocarditis and Dental Extractions—Frederick A. Willis and Alex E. Brown	107
Some Phases of Dental Health Insurance—Don W. Gullett	6
Sulpha Drugs—F. H. Côte	315
The Location of Bacteria in the Oral Tissues—E. Wilfred Fish	385
The Technique of Intra-Oral Radiography—James Coupland	351
Treatment of a Cleft Palate—Capt. G. A. Pollock and Lieut. H. E. Leyland	215
Thirty Practical Surgical Tips—George A. Morgan	59
The Sulphonamides—K. Pierre Dozois	65
The Construction of a Balanced Occlusion—F. L. Cole	161
The Psychology of Handling Patients—Kenneth M. Johnson	163

The Use of Enameloid Acrylics in Operative Dentistry—A. D. Angus	209
The Acrylics in Plastic Surgery—John Gerrie	210
The Use of Acrylics in Dentistry—W. C. Bushell	213
Tooth Preparation Under a Flow of Water—I. B. Hyams	435
The Use of Acrylics in the Replacement of Anterior Teeth—George A. Chudleigh	471
Vincent's Infection—D. I. Neuman	13

EDITORIALS

The Core of the C.D.A. Problems	17
What Price Glory	77
Compulsory Health Insurance	127
Recall Problem	177
Health Insurance Problems	223
Dental Personnel	271
Sulphonamide Compounds in Dental Practice	323
Dental Technicians	326
Health Services in Canada	361
Horace Wells Centennial	405
The Coming Days	443
What's in a Name	487
Fluorine and Dental Caries	547

BOOK REVIEWS

A Text-Book of Orthodontia	19
Acrylic Resins in Dentistry	21
Atlas of the Mouth and Adjacent Parts in Health and Disease	180
Accepted Dental Remedies	407
Dental Practice Management	326
Fundamentals of Occlusion	226
Fundamentals of Dental Histology and Embryology	363
Oral Diagnosis with Suggestions for Treatment	20
Planning and Treatment for Bite Raising	20
Parodontal Disease	407
Supplement to the Dental Treatment of Maxillo-facial Injuries	273
The Impacted Lower Third Molar	274

SUBJECT INDEX

Assistants	23
Acrylics	114, 207, 209, 210, 211, 213, 308, 442, 471
Antrum	217
Adolescent	220
Alopecia Areata	398
Abrasion	440
Biochemistry	157
Bridge-work	529
Bengal Famine	545
Bacteria in Oral Tissues	385
Caries	356, 358, 545
Cost of Living Bonus	135
C.D.A. Fees	17
Contented Living	76
Cleft Palate	215
Cements	546
Cavity Preparation	253
Convocation Address	303
Cysts	355
Citrus Fruits	442
Dental Hygiene Institute	191, 336
Dentures	3, 401, 477
Dental Corps	24, 82, 132, 181, 274, 327, 365, 445, 551
Dental Health	261, 361
Drugs	360
Dental Service North Pacific	25
Dental Practice	74, 163, 170, 176, 219
Dentistry and Medicine	268, 338
Diet	483, 541
Endodontists	191
Electron Microscope	141
Ethics	329
Education	75
Exodontia	59, 130
Fees	549
Future of Dentistry	400
Fractures	67, 515
Frenum Labiorum	483
Fluorides	91, 173, 231, 288, 358, 453, 541, 547

Fatigue	266, 484
Gum Chewing	545
Great Britain Health Service	394
Health Insurance	6, 11, 15, 16, 74, 90, 122, 170, 223
	270, 275, 361, 394, 400, 437, 452
Health Education	75, 453
Heart Problems	175
Haemorrhage	218
Horace Wells	405
India	320
Infection	269
Jacket Crowns	308
Keratization	75
Local Anaesthesia	222, 318, 371
Narcotic Schedule	135
New Zealand	36
Nutritional Deficiencies in India	320
Oral Surgery	59, 484
Osteomyelitis	167, 169
Operative Dentistry	253, 435, 485
Orthodontia	536
Pan American Membership	27
Practice Management	22, 523
Pregnancy	16
Pericoronal Infection 3rd Molar	21
Partial Dentures	161
Psychology	163, 264
Penicillin	174, 453
Prophylaxis	177
Procurement and Assignment	553
Prosthetic Dentistry	264
Pentothal Sodium	270
Post-War Dentistry	271, 490, 539, 540, 544
Periodontia	385, 427
Pulp Reactions	402
Public Health	454
Root in Antrum	217
Resolutions	35
Research	544
Russia	42, 455
Recall List	177
Rehabilitation	185, 187, 234
Radiography	351
Silver Nitrate	81
Sulphonamides	65, 107, 123, 124, 125, 126, 270
	315, 321, 322, 323, 411
Subacute Bacterial Endocarditis	107
Subcutaneous Haemorrhage	217
Sutures	319
Sugar	403
Thumb Sucking	322
Technical Training Centre	25
Technicians	28, 327
Traumatism	130
Travelling Expenses	236
Vincent's Infection	13, 79, 438, 487, 543
Water in Operative Dentistry	435
White Paper	285, 334, 335, 452

LIST OF CONTRIBUTORS

Averback, M. J.	529
Angus, A. D.	209
Box, Harold K.	427
Bennett, Sir Norman,	219
Bibby, Basil G.	173
Brown, Alex E.	107
Bushell, W. C.	213
Coupland, James	351
Clay, John W.	65
Cole, F. L.	161
Cameron, Geo. L.	303
Côte, F. H.	315
Chudleigh, George A.	471
Dozois, K. Pierre.	65

Dohan, J. S.	207
Elliott, W. L.	67
Ellsperman, George A.	253
Else, J. G.	523
Fish, E. Wilfred	385
Flanagan, J. C.	11
Friend, George	220
Gerrie, John	210
Gullett, Don W.	6
Higgins, A. E.	261
Hyams, I. B.	435
Hurton, J. R.	477
Johnson, Kenneth M.	122, 163
Lowry, I. K.	211
Leyland, Lieut. H. E.	215
Martin, Frank	3
Morgan, George A.	59, 355
McCall, John Oppie	170
Neuman, D. I.	13
Follock, Capt. G. A.	215
Robb, William	398
Schachter, J. J.	515
Stern, Maurice N.	114, 308
Thomson, David L.	157
Willius, Frederick A.	107
Weinstein, Joseph	175

IN MEMORIAM

Anderson, D. Alton	500
Ash, Percy Arthur	500
Burnett, Arthur C.	372
Banning, Claude Percy	358
Bruce, Warren E.	192
Coglan, Lt.-Col. Fred T.	238
Clark, Harold	44
Crowe, Mrs. Victor	142
Dier, Harry	192
Hoag, Harold William	500
Holmes, Edward W.	500
Holt, Robert	372
Hetherington, Ernest W.	237
Hennigar, Gordon Ross	371
Hinds, Francis Patrick	412
Lederman, Ralph	560
Lester, Albert J.	142
Lessard, M. P. Henri	338
Maranda, Herbert V.	142
McLaren, M. A.	560
McLennan, William G. S.	92
Munroe, George A.	238
McKee, Edwin Lowe	288
McCordick, Albert E.	372
Moorehead, S. B.	456
Oldham, George Elliott	92
Paquin, J. D.	192
Palmer, George Lambert	238
Reilly, Harold Albert	338
Robertson, R. Erskine	560
Stone, Ralph Emerson	412
Steinberg, Abraham	142
Steele, Gilmour J.	142
Scott, George D.	92
Steele, Lt.-Col. C. W.	371
Schacter, Samuel	412
Shannon, Stafford	412
Tweedle, Frederick W.	44
Thibault, Honoré	192
Thornton, Robert D.	237
Thompson, Robert Gilbert	238
Tanton, Creel Armour	288
Thomas, Frederick C.	288
Tansey, Owen John	372
Woolverton, Solon	44
Winters, William R.	238
Walker, C. G. J.	500

Index Au Volume 10-1944

	Page
Abcès dentaires (Les), par A. Thibaudeau.....	501
Acryliques (Les). Questions et réponses, par Maurice N. Stern. (Traduction du Dr A. Thibaudeau.).....	53-102-152-298-348-382
Angine de Vincent (L) par Patrick Leahy.....	562
Anglicisme chez le Dentiste.....	155
Apollonian (The), par Alcide Thibaudeau.....	193
bactériologie de la bouche, par Antonio Reny.....	194
Bibliothèque (La).....	249
Causerie donnée au Poste C.B.F. de la Société Radio-Canada, par Armand Fortier.....	245
Chirurgie dentaire des Pays-Bas. La Rédaction.....	289
Congrès d'hygiène dentaire publique de Québec, par le Dr Harry S. Thomson.....	93
Conjonctivite dentaire (La), par Dr Emile Blain M.D.....	46
Conseils pratiques, par A. Amodeo.....	154
Conseils pratiques par Paul Geoffrion.....	204
Conseils pratiques, par R. E. Lussier.....	424
Considérations anatomiques sur l'anesthésie conductive de la mandibule pour enfants, par W. H. Phillips et H. A. Maxmen. Traduction A. Thibaudeau.....	339
Coup d'oeil sur le passé, par Alcide Thibaudeau.....	150
Dents temporaires (Les) La rédaction.....	45
Editorial, la Rédaction.....	
Examen pratique des silicates, par Joseph W. Roush. Traduction du Dr A. Thibaudeau.....	413
Frein anormal, par Gérard de Montigny.....	239
Influence des foyers locaux d'infection, dans l'infection générale. L'infection amygdalienne. Ses relations avec la Focal Infection, par Henry Proby.....	342
Influence de l'alimentation (De l') sur la carie dentaire, par le Pr. G. Beltrami.....	54
Kystes (Les) par le Dr Maurice Roy.....	296
Modalités bactériologiques (Les) et cliniques de l'infection dentaire chronique, par le Dr Ch. Grandclaude et Ph. Lesbre.....	47
Mortification pulpaire sans carie, par le Dr P. Lajeunesse.....	457
Ostéite hypertrophique localisée, des maxillaires, par M. Dechaume (La Presse Médicale).....	565
Pathologie générale et stomatologie, par le Dr R. Servais.....	373-416-460
Questions et réponses, traduction par le Dr Gérard deMontigny.....	297
Revue des Revues, par Paul Geoffrion.....	201
Sinus et dents, par le Dr R. Mayoux.....	290
Sommes-nous bien éclairés? par Marcel Laflamme, Ingénieur Civil.....	508
Syndrome douloureux et fonctionnel par mauvais articulé dentaire, par Paul Hennebert.....	144
Troubles oculaires d'origine dentaire, par S. A. Balfarda.....	154
Usage (L') des mots, par A. Thibaudeau.....	143
Vitamines et avitaminoses. Avitaminoses franches et avitaminoses larvées, par le Dr Chapotel.....	96

NOUVELLES

Le Dr Jules Thébaud prête serment comme avocat du barreau de Port-au-Prince.....	204
Cours de perfectionnement en dentisterie des enfants pour dentistes pratiquants.....	204
Félicitations.....	204
In Memoriam.....	204

Société Dentaire de Montréal, par Paul E. Poitras.....	250
Nouveaux diplômés en chirurgie dentaire.....	300
Le Dr T. Asselin décédé.....	300
Invitation.....	423

TABLES ALPHABETIQUES DES AUTEURS

La pagination des mémoires originaux est indiquée en caractères gras.

Amodeo A. Conseils pratiques.....	154
Balfara S. A.—Troubles oculaires d'origine dentaire.....	154
Beltrami Pr. G.—Influence de l'alimentation sur la carie dentaire.....	54
Blain Emile M.D.—Conjonctivite dentaire.....	46
Chapotel Dr. Vitamines et avitaminoses. Avitaminoses franches et avitaminoses larvées.....	96
deMontigny Gérard—Frein anormal.....	239
deMontigny Gérard—Questions et réponses (traduction).....	297
Dechaume M.—Ostéite hypertrophique—localisée, des maxillaires (La Presse Médicale).....	565
Fortier Armand—Causerie donnée au Poste C.B.F. de la Société Radio-Canada.....	245
Geoffrion Paul—Revue des Revues.....	201
Geoffrion Paul—Conseils pratiques.....	204
Grandclaude Ch.—Modalités bactériologiques et cliniques de l'infection dentaire chronique.....	47
Hennebert Paul—Syndrome douloureux et fonctionnel par mauvais articulé dentaire.....	144
Laflamme Marcel, Ingénieur Civil.—Sommes-nous bien éclairés?.....	508
Lajeunesse P. Mortification pulpaire sans carie.....	457
Leahy Patrick—L'angine de Vincent.....	562
Lesbre Ph.—Modalités bactériologiques et cliniques de l'infection dentaire chronique.....	47
Lussier R. E.—Conseils pratiques.....	424
Maxmen H. A.—Considérations anatomiques sur l'anesthésie conductive de la mandibule pour enfants. (Traduction A. Thibaudeau).....	339
Mayoux R.—Sinus et dents.....	290
Phillips W. H.—Considérations anatomiques sur l'anesthésie conductive de la mandibule pour enfants (Traduction A. Thibaudeau).....	339
Proby Henry—Influence des foyers d'infection, dans l'infection générale. L'infection amygdalienne. Ses relations avec la Focal Infection.....	342
Reny Antonio—Bactériologie de la bouche.....	194
Roush Joseph W.—Examen pratique des silicates. (Traduction A. Thibaudeau).....	413
Roy Maurice Dr.—Les kystes.....	296
Servais R. — Pathologie générale et stomatologie.....	373-416-460
Stern Maurice N.—Acryliques—questions et réponses. (Traduction A. Thibaudeau).....	53-102-152-298-348-382
Thibaudeau A.—Abcès dentaires (Les).....	501
Acryliques—questions et réponses. (Traduction).....	53-102-152-298-348
Considérations anatomiques sur l'anesthésie conductive de la mandibule pour enfants. (Traduction).....	339
Coup d'oeil sur le passé.....	150
Examen pratique des silicates (Traduction).....	413
L'usage des mots.....	143
The Apollonian.....	193

A CARDINAL RESOLUTION

Winnipeg, Manitoba, November 2, 1943.

The Manitoba Dental Association, in Annual Meeting assembled, hereby declares that the fee for dentists, throughout Canada, to the Canadian Dental Association, should be at least \$10.00, and undertakes to pay that fee if and when, in the opinion of the Board, a sufficient number of the other provinces undertake to do likewise.

(The above resolution was passed unanimously—Editor.)



KENNETH M. JOHNSON,

Winnipeg, Manitoba

President of the Western Canada Dental Society
(Alberta, Saskatchewan, Manitoba)

Past President of the Winnipeg Dental Society



The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 10

TORONTO, JANUARY, 1944

NO. 1

Modified Immediate Complete Denture Technique*

by FRANK MARTIN, D.D.S., Toronto, Ontario

IMMEDIATE Denture Service is of interest to all during these strenuous times. People of today are very busy on all phases of war work and those who require teeth removed and dentures inserted want it accomplished with dispatch so that little or no time will be lost from their work. The dentist who is familiar with this type of service can produce a satisfactory and much appreciated prosthodontic restoration.

Immediate dentures, for purposes of discussion, may be classified into three types as follows—

First: The provisional or temporary denture—where the artificial teeth are set into the sockets of the recently extracted teeth and the denture presents no labial gum. Everyone is familiar with this type so it requires no elaboration.

Second: The completed denture, with the labial gum, inserted immediately following the extraction of the remaining teeth and conservative surgical treatment of the bone. This type, as a general rule, duplicates the aesthetics of the natural teeth. Numerous papers and articles have been published on this type in current dental literature. These contributions cover very fully the advantages of immediate dentures and describe the accepted technique particularly adaptable to

cases in which the aesthetics are duplicated or very slightly modified. A perusal of these contributions in the bibliography appended hereto will refresh the reader on these points.

Third: The denture which is only partly constructed prior to surgery. Following the surgery, the try-in and impression are corrected and the insertion deferred until the completion of the denture the following day. This type lends itself particularly to those cases in which the aesthetics are going to be considerably or radically changed; also those cases which usually were considered unsuitable for immediate dentures where the natural teeth were mal-placed due to drifting, extrusion, splaying out or broken down teeth. The technique for this modified method may also be used where the aesthetics are going to be duplicated. In fact, some operators prefer to do all their immediate cases by this method.

For purposes of this discussion the upper maxilla will be referred to. The procedure follows very closely the accepted technique up to a certain point. In the first place a reasonably good muscle-moulded impression is obtained and cast made from it. The method of obtaining the impression is left to the choice of the operator. The bite registrations are now taken and face-bow transfer and case mounted

* Presented before the Nova Scotia Dental Society, July, 1943.

in an adjustable articulator. The mould and shade of the teeth should be selected following the taking of the bite. It is very important at this time to register the median line, marking the cast and making notes indicating as far as possible how the artificial teeth should be set. This procedure is helpful during the setting up of the teeth.

In the laboratory the posterior teeth are set up on a tough wax base plate. The writer finds that in most of these cases a shellac base is not desirable at this stage of the technique as it interferes with the positioning of the teeth and has only to be cut away. A good tough wax base will suffice for the try-in of the posterior teeth.

The usual steps are followed during the try-in—the centric and lateral bites are checked etc., and any corrections are adjusted.

Again in the laboratory, the anterior teeth on the cast are alternately cut out and the selected artificial teeth ground in and set according to notes made or marked on the cast during the taking of the bite. In many of these cases it is desirable to set the artificial teeth shorter and further in than the mal-placed natural teeth, thereby improving the aesthetics of the case.

Having completed the set-up of the case and the teeth firmly waxed in place, the lower antagonizing cast is removed from the articulator and another ring attached to it. A wax box is now built about this bow of the articulator into which a mix of soft plaster is poured. Then the upper set-up is closed into this soft plaster and the teeth on the wax base imbedded to about half their length. (This step is exactly the same as the technique used for rebasing a denture). It is important that the incisal guidance pin be definitely set so the vertical dimension will not be altered.

The wax set-up is now removed from the articulator and the cast finally trimmed the desired amount. An im-

pression of the trimmed cast is taken, and from this another cast is made which is used to construct a clear acrylic index.

Now, returning to the cast on the articulator, a good still shellac base is carefully adapted, trimmed and reinforced across the palate with a wire or strip of metal to insure rigidity. The crest of the base plate is heated and the articulator closed down to the necks of the teeth in the plastic block, making sure that the articulator closes. The teeth are attached to the base with a tough hard wax, e. g., Tenax. The case is then waxed up, properly trimmed for try-in and removed from the cast.

A temporary splint is now constructed, to be inserted immediately after the surgery. A shellac base is again applied to cast on the articulator and a white compound bite rim built on it. The white compound can be extended and forced into the depressions left in the plaster block on the lower bow and the base plate rim carved and smoothed to simulate teeth.

The case is now ready to proceed with the surgery. Sedative premedication is often indicated in these cases, e. g., nembutol $1\frac{1}{2}$ grs. This may be used and administered about one-half hour before operating. Overloading the tissues with local anaesthetic should be avoided, while a minimum amount properly placed helps to prevent excessive swelling. Care should be taken not to traumatize either the soft or hard tissues. Bruised or crushed bone produced by dull chisels or rongeurs does not heal well.

The surgical technique follows the usual procedure—The muco-periosteal flap is elevated. It is the operator's choice whether the bone is partially trimmed prior to the extraction of the teeth or left until afterwards. The estimated amount of bone is removed, judging approximately from the amount trimmed off the cast. The flap is brought into place and tested with the clear acrylic index and any correc-

tions made. In suturing the flap, close or continuous suturing is desirable in order to avoid the impression paste being forced into the wound.

At this stage the try-in is placed in the mouth and opportunity is presented to make any changes in the arrangement of the teeth, also to check the median line, the horizontal plane and aesthetic effect. When the try-in is completed, the final impression is proceeded with. A strip of Kerr's Plastic Wax is placed around the periphery and post dam area, softened slightly in flame, then moulded to place in the mouth, removed and chilled. A hole is cut in the centre of the vault of the shellac base to avoid compression of impression medium over the hard area. The try-in is now lined with a minimum amount of one of the impression pastes and carried to place in the mouth and the periphery again muscle-moulded. The patient should be asked to close the mouth in order to see that the case is right up to place. When impression material is hardened, the case is thoroughly chilled by rinsing with cold water, removed from the mouth and is ready to be processed.

In the meantime, the temporary splint is lined with a surgical dressing and inserted in the mouth. This splint acts as a bandage to the wound and a rest for the opposing teeth until the following day when the denture is completed. In case the denture is not ready, it is necessary to have the patient return in twenty-four hours for post operative care in any event.

In proceeding to process the denture, the impression in the upper try-in base is poured in stone and when set, the excess impression plate is removed and the case finally waxed for flasking. When separated, the cast may be trimmed and smoothed to eliminate duplication of the sutures on the inner surface of the finished denture.

When the patient finally returns for the finished denture, the temporary splint is removed and the sutures also,

if they have not been removed previously. The mouth is cleansed, making it fresh and comfortable by removing the excess blood clot, etc. The denture is now inserted and any obvious adjustments made. An anodyne surgical dressing may be placed in the anterior area of the denture to control any after soreness. The patient is brought in for a few succeeding days for post operative care, the final occlusal adjustment being made when the case has settled to place, probably two weeks after insertion.

The advantages of this method are that they eliminate "the shot in the dark", so to speak, of the direct technique. The opportunity is presented to the dentist to make corrections in the set-up and obtain a reasonably accurate impression. The operator is confident that the case will look right and fit right when the denture is finally finished and inserted. There are two points, however, that require close attention—first, to see that the articulator is absolutely closed when the teeth are transferred to the shellac base, and again when correcting the impression, use only a small film of impression paste. Too heavy a mix and too large a quantity may prevent the case from being properly seated and would therefore produce a change in the bite and vertical dimension.

The technique as outlined is used by the writer and is suggested in the hope that it may be a means of helping to overcome some of the more difficult problems of immediate denture prosthesis.

The writer wishes to acknowledge helpful suggestions received from the following—Dr. E. W. Paul, Dr. J. A. Bothwell, Dr. I. H. Ante, Dr. J. H. Johnson, Dr. R. J. Godfrey, Dr. F. L. Cole.

BIBLIOGRAPHY

1. Ante, I.H.: Immediate Denture Service. Dental Digest, vol. 48, pp. 74-77, February 1942.
2. Schweitzer, J. M.: Immediate

- Dentures, Theory and Procedure. Dental Items of Interest, vol. 64, pp. 471-479, May 1942, vol. 64, pp. 570-580, June 1942.
3. Stanton, J. C.: The Why, the When and How of Dentistry, vol. 12, pp. 60-63, February 1942.
 4. Martin, F.: Immediate Denture Service Using Labial Gum. The Journal of the Canadian Dental Association, vol. 6, pp. 587-590, December 1940.
 5. Priest, C. A.: More Aesthetic Immediate Dentures. Dental Survey, vol. 15, pp. 773-778, July 1939.
 6. Saunders, R. L.: Some Structural and Functional Features of the Alveolar Process in Relation to the Practice of Immediate Denture Service. The Journal of the Canadian Dental Association, vol. 7, pp. 350-352, July 1941.
 7. Fram, F. W.: The Immediate Denture, Dental Items of Interest, vol. 63, pp. 64-68, January 1941.
 8. Hurst, W. W.: A Complete Immediate Denture Technique for the General Practitioner. The Journal of the Canadian Dental Association, vol. 27, pp. 1903-1911, December 1940.
 9. Swenson, M. G.: Immediate Denture Service. The Journal of the Canadian Dental Association, vol. 26, pp. 719-730, May 1939.

Medical Arts Building

Some Phases of Dental Health Insurance in Canada*

by DON W. GULLETT, D.D.S., Toronto, Ontario

INITIAL approach toward improved social conditions is advocated through the adjustment of health services. It is stated that affirmative measures to promote good health are essential before other proposed social legislation can be safely adopted. Such a conclusion places the health professions in the van of social progress and as a consequence members of the health professions are faced today with giving serious decisions to pre-supposed problems which will arise if and when certain proposed legislation is adopted.

No one would be rash enough to definitely state what turn suggested health measures may take. Future trends in the methods of practice by which health services shall be rendered are less definitely indicated today than at any time previously in the present century. Greatly increased numbers of people, especially the younger generation, have come to have a greater

appreciation of dental services. The people are demanding better health services, including dental services, which is an outgrowth of our own health educational programs. As long as people were unaware of the importance of mouth conditions in relationship to general health and before dental service had developed the intricate methods of treatment now in use, dental care was not considered an essential to their general health. Once having recognized a higher standard, people have no desire to return to the way of life lived by past generations, hence parents are imbued with the spirit of correcting the defects in the lives of their children which they now recognize were neglected in their own childhood. This inherent parental psychological fact is the sesame for the next forward step in dental practice.

Any proposal of radical change conjures up fear in the mind of the aver-

*Presented at Northern Ontario Dental Association, Sept. 4, 1943 also at Eastern Ontario Dental Association, Sept. 20, 1943.

age dentist, and rightly so, for he has a definite problem in economics which he has fitted himself to meet under conditions as they exist at present. The terms "government control" and "regimentation" mean to him the anti-thesis of "freedom" and "democracy" and indicate to him the development of burdensome bureaucracy. Drastic curtailment of freedom in time of war emergency is accepted by all but in anticipation of relief from such measures when the emergency has passed.

ENLARGED HEALTH SERVICES

Every Canadian dentist is well aware that the federal government has taken definite steps towards the introduction of a plan for greatly enlarged health services which include dentistry. As is well known, the present proposal is the introduction of a health insurance measure. At the invitation of the government, the Canadian Dental Association presented a plan for the co-operation of the dental profession in the measure. This published plan * should now be understood by all members of the profession. The purpose here is to pursue some of the more recent happenings upon this important matter and to discuss a few misconceptions among dentists which have come to our attention.

Proper perspective is advisable before attempting to study such a subject as health insurance. If one has a framework or an outline of the whole intended project he can then more easily place the current article or newspaper item in its proper pigeon-hole. There exist today three large scale reports (not plans, as so often erroneously stated) representing three countries and which are claimed to be only partially finished. These reports are the Beveridge Report for Great Britain, the Burns Report for the United States and the Marsh Report for Canada. The scope of the movement is not confined to these three countries

by any means but is world-wide, there being at the present time some eighteen countries of the American continents gradually introducing legislation to implement similar plans with the same objectives adapted to the particular circumstances in each country. These plans deal, sometimes specifically and at times vaguely, with proposed changes to be made in the social services of each respective country. Essentially they aim at fulfilling the requirements of one of the four freedoms—freedom from want. The general term under which the necessary agencies are proposed to be merged, in order to accomplish this objective, is known as Social Security. In descriptive Churchillian phraseology, social security "brings the magic of averages to the rescue of millions." Claim is made that the first and most definite part of the Social Security program is health insurance, and we as members of an essential health service group are greatly concerned with the development of plans for the introduction of such legislation in Canada.

NEW HEALTH INSURANCE BILL

Last year a complete new health insurance bill was drafted by the Government Advisory Committee on Health Insurance. The Association followed closely the drafting of the details, especially the incorporating of the C.D.A. proposal in the bill. Every courtesy has been shown by the government officials in charge of the work. Access to all information has been readily given through many interviews and pertinent subject matter has been made available at all times. An effort was made by the officials to include as closely as possible the principles as laid down by the Association. However, it must be understood in order to appreciate the situation, that in many respects the whole matter becomes one of cooperation with other health bodies and all those con-

*Presentation on the subject of National Health Insurance for Dentistry in Canada, Journal of Canadian Dental Association, September, 1942.

cerned with the measure, including the beneficiaries. The terms of the legislation affecting dentistry must be in harmony with the whole bill.

Effort has been made at all times to keep the progress of this work on a national basis. In addition to the C.D.A. committee, a health insurance committee was appointed in each province by the respective provincial Boards. These committees have been kept advised on all matters relating to the work. In turn the provincial committees have been most helpful in submitting opinions and criticisms. These suggestions were carefully studied in relationship to the other briefs submitted, and incorporated as far as possible in the various presentations to the government.

SOCIAL SECURITY COMMITTEE

Shortly after the opening of the 1943 session of the Federal House a Social Security committee made up of members of the House of Commons was appointed. This committee was presented with the proposed health insurance bill as prepared by the Government Advisory committee. Representatives of all organizations affected by the introduction of a health insurance measure were requested to appear before this Social Security committee, as witnesses. The Canadian Dental Association presented a brief before the committee on May 11th which was well received.

No one can predict what turn the whole legislation may take in the hands of the politicians but up until the present there has been no direct criticism of the position the dental profession has taken in the matter from extraneous groups.

AN ENABLING ACT

The proposed Act is an enabling act which means in reality that it is a provincial one. The province may introduce health insurance by passing the Act as it stands and thus secure the Federal grants for the same. There

will be some leeway for the provinces especially in three main points: (1) the method of payment may be by capitation; (2) the mode of practice may be determined in any respect to suit special circumstances; (3) determination of the number of insured individuals may be made by the province. At the present time the bill includes everybody—the province may make an income limit. In the dental benefit it is stated that at first children only will be included and that an age limit will be determined. All matters relating to dentistry are to be decided by agreement between the provincial health insurance authority, which it is thought will be a commission, and the executive committee of the legal dental body in the respective province.

MISCONCEPTIONS

Certain misconceptions, existent among members of the profession, have come to our attention. If anyone should understand thoroughly the proposals of the Canadian Dental Association, it is the dentist who is going to work under them, if adopted. Furthermore, the powerful effect of dentists collectively on public opinion must not be overlooked. A large proportion of the population sit in dental chairs every year. Health insurance will undoubtedly be introduced from a political standpoint and that standpoint will be the one believed to be the choice of most of the people. This subject is a current one today and the opportunity to mould public opinion by the health professions is great. Before any dentist can intelligently converse upon the details of the proposed legislation he must know his subject. In the interests of his own future he should be well-informed. He certainly should understand the proposals of his own Association and be able to support them.

Some dentists loosely interchange the terms health insurance and state dentistry, whereas we believe there exists a vital difference. State dentistry is a system of administration by

which the State provides dental services for a large part or all the population and under which all practitioners are employed, directed and paid by the State on a salary basis or otherwise. Whereas health insurance is based upon the familiar pattern of all other forms of insurance so well known, whereby payments (premiums) are made by or on behalf of the members of a specified group into a common fund and the distribution of stated benefits is made to the members of that group. It is easily discernible that there is some professional independence possible under health insurance whereas there may be little, if any, under state dentistry.

It has been said that it makes little difference whether the plan for health service is contributory or paid for directly and entirely by the government, because the people pay anyway. To the lay economist (and every man is an economist today) this is a weak argument. You might as well say why sell tickets to ride on the Canadian National? Or why bother with Hydro accounts? Or for that matter, why pay for shoe-laces, everybody uses them, or why have a medium of money exchange at all?

The term health insurance itself is misinterpreted by many. In early years, the term used was sickness insurance and the legislation in some countries is essentially just that—for treatment only. Today the advance in health matters is directed toward prevention and not treatment and the term health insurance has replaced that of sickness insurance signifying the changed attitude. Our Government officials are determined to produce legislation in Canada that will approach the whole problem of disease from the angle of prevention and not from the curative end of disease.

The proposed C.D.A. plan is one of control or prevention and a logical one which is in harmony with advanced thought in public health. Favourable comment has been made on it in the

various professional journals and also by prominent health officials. While there is absolutely no guarantee that dentistry in Canada can obtain all the objectives of the plan, it has been agreed with in general terms, up to the present time, by governmental officials.

THE C.D.A. PROPOSAL

That the individual dentist has been slow to grasp the dental problem from the public health or preventive angle must be admitted. Indeed the criticism is oft-times made that laymen are advancing in their thinking on dental public health ahead of the profession. No matter whether this statement be true or not the Canadian dentist must view his position in the relationship of public health rather than the narrower standpoint of his immediate task at hand. He must quickly awaken in order to assume the position of equality he justly deserves rather than one of subserviency which can occur at this critical period.

Repeatedly, it has been indicated that many dentists believe the institution of health insurance for dentistry, to merely mean the setting up of systems or arrangements for the extracting, filling, et cetera, of greatly increased numbers of teeth. If this interpretation is allowed to remain; if the philosophy of dentistry should be thus determined; then the same position will be ultimately reached by the dental profession in Canada as in some other countries under similar cogent health legislation. Let it be stated emphatically that organized dentistry is not supporting legislation to merely set up large scale systems of treatment *but is proposing a definite plan of approach toward the controlling of dental disease in Canada.* The former is retrograde for dentistry, the latter is advance. The first means dormant dentistry, the second militant dentistry; militant against dental disease. The one means making dentists excavators and fillers of teeth; the other places

dentists in the scientific and professional health category. A corner is to be turned if health insurance is introduced and the direction taken depends upon whether a program of control or prevention can be carried through, or one of treatment or curative be instituted. This is the all important matter. Control is possible with an increasingly bright future ahead, while a curative program is disastrous and will bog down the dental profession. In time of war emergency a dental program for treatment is essential and most appropriate but for an all time peace proposal it would prove disastrous for the profession and the public as well. The dentists of Canada must be educated to see the C.D.A. proposal in its proper interpretation.

Dental science will not remain static in the midst of a changing world, nor would any dentist desire it to do so. The health of the nation is being given more consideration now than at any previous time in history. Voluntarily the people are forming plans on a health insurance basis. The history of these movements in other countries, shows that such groups are the fore-runners of compulsory health insurance measures. The dental profession must take up its responsibility to all, not part, of the people. In response the plan presented approaches the whole problem by advocating the institution of a progressive system for controlling dental disease which will ultimately reach every citizen of the nation. This program is believed to be the next logical step for the dental profession to take and is built upon the foundation laid by our forefathers in dentistry, in the country.

One hundred years ago little, if any, dentistry was practised in Canada. Rich and poor alike suffered agony from aching teeth and usually lost them at an early age. No one can estimate by the farthest stretch of imagination the suffering and ill-health that accompanied this wholesale tooth

decay due to lack of knowledge and lack of care.

DENTISTRY'S REAL CHALLENGE

On March 4th, 1868, at the first session of the first legislature in the province of Ontario, the first (save Alabama) dental act in the world was enacted establishing the Royal College of Dental Surgeons of Ontario. After two fruitless attempts had been made, the R.C.D.S. opened a dental school in the year 1875, at Toronto. In 1889 the degree of D.D.S. was conferred upon graduates from the R.C.D.S. school and again dentists in this province were among the first so recognized. Other provinces of Canada followed gradually in a much similar manner. Abundant credit is due the men who secured legislation respecting dentistry in this country up to the present time. An examination of the existing dental acts in the world will reveal convincing evidence that greater freedom for dentists to elect their own administrators and possess complete autonomy does not exist elsewhere. The present position of Canadian dentistry should be recognized and appreciated by every member of the profession. In 1902 the Canadian Dental Association was formed and now is firmly established through the support of the provincial legal bodies. In the meantime numerous other voluntary dental organizations have come into being, across the Dominion. The history of Canadian dentistry records a long list of well-known names of men who gave all they had to give, in order to build a dental profession which would provide capable dental services for Canadian people. The task is ours to meet the future demands upon the profession.

Through the continuous effort of organized dentistry there are now over 4400 practising Canadian dentists. Each one has received an adequate education in high grade schools. No other nation in the world offers better standards for dentistry nor better den-

tal services for its people. All of which has been accomplished in the short space of some seven or eight decades, through the enterprising efforts of the men preceding us in the profession and in a progressively expanding program to include more and more of the people. At times, dental progress has not been as fast as desired but it should be pointed out that expansion of services has been ever upward and never backward. Some there are who would ignore the achievements of the past and substitute new and untried methods. Such radical procedure is at times spoken of as burning down the barn to get rid of the tramps in the hay loft. Let there be no doubt that the dental profession faces a real challenge at which organized dentistry cannot look askance. Dentistry must be prepared to take up its proper position in the new social structure. The profession must assume a positive position in

regard to public welfare and take seriously its responsibility to the public. During such an emergency as we are passing through, our whole economic and social life is in a state of flux through the adoption of arbitrary measures, which are necessary, and it is difficult to see clearly ahead. However it is believed that the foundations for the practice of dentistry are well laid and while the profession must be ever alert to discard that which is found wanting and ready to grasp the good, there should be no advocacy of radical or violent change in dental practice. The principles and plan endorsed by the Canadian Dental Association are an outgrowth of proven dental experience, scientifically sound, which undertake to attack the problem of dental disease with greatly increased vigour and with as little gradual disturbance to established methods of practice, as possible.

211 Huron St.

President J. C. Flanagan's Address at Fall Clinic of Montreal Dental Club

THIS year, we are honoured by having the meeting of Delegates of the Canadian Dental Association held in conjunction with our Fall Clinic. Let me say this in passing, that never in the history of dentistry, has it been so necessary to have a strong united central organization as at the present time, an organization into whose keeping we can place the gigantic problems which face us collectively, and from which organization we can expect the leadership so necessary, if we are going to solve the problems facing us in an intelligent democratic manner, in the interest of the Canadian people as well as that of dentistry. This task is in the forefront of the C.D.A.'s program, and to do this job in the manner I have suggested, will require the

wholehearted enthusiastic support of all Canadian dentists.

To the vision of those responsible for the formation of the C.D.A. and the making of its Journal into a national organ; to those who have, and are carrying on the struggle to unify the profession from coast to coast, we, as one of the many local organizations making up the whole, do humbly pay our sincere respects.

What is this gigantic problem facing us as dentists to-day? Is it one that has suddenly crept up on us, as a thief in the night? Not by any means! It is one that has been developing ever since dentistry was graduated into a health profession, and that is some time ago. The problem as you are all aware, is the providing of dental

health services to all the Canadian people. We are passing through a very positive stage of world revolution, in which, many of those things and ideas, which we have considered almost sacrosanct are being questioned and discounted. New ideas and theories are being poured into the hopper of trial and error, and only the fine grinding of the grist mill of experience will separate ultimately the wheat from the chaff.

In this situation, most of us find ourselves in a state of confusion; many of us who are getting on are prone to feel that new and untried devices are dangerous and costly. It is imperative that those of us who have been left at home in this world holocaust, and whose duty it is to face reality, must not be blinded by the tyranny of "Things as they used to be" as an obstacle in the path of progress.

Many of us realize that he who dares to suggest ideas or plans that might upset the imbalance of the status quo, places himself in jeopardy every hour. On this score I am reminded of Henry W. Nevinston, that grand old man of British Journalism who for fifty years fought to do just this thing, but was fortunate among men of this hue; he lived to see his three unpopular causes come to fruition, elimination of the slaves from the coco plantation, votes for women, and Home Rule for Ireland. The influence and inspiration of such men, leave a pattern for those more humble, when the expression of one's opinion and ideas are surrounded by serious personal embarrassment.

Reading history, one is forced to the conclusion, that, in its humanistic and social relations, changes have taken place by force, force of arms, or force of public opinion. It would seem that it is taking an extraordinary degree of force of arms to make us realize that we are our brothers' keeper, and that we cannot disregard our Collective relationship, either national or international. The problem of which I have spoken, is one of those being

forced on us, whether we like it or not.

By and large, we as dentists, have not been particularly interested in that phase of work that had to do with public responsibility of dental health or hygiene. It was a question of *laissez-faire*, and we hoped it would not be a serious problem in our time. Well, it has arrived on our doorstep, and ignoring its reality will not help us to evade or solve it. We as dentists must, of necessity, have an internal and external policy. The internal one, we have concentrated on to no end. We have fixed ourselves up all right and made sure that we ran a closed shop. We told our legislators that this was the only way we could control the standards of dentistry. So far so good. Our thinking has gotten no further; we limited the supply of dentists more or less, to meet the economic demand, and set ourselves in an organized way against anything that might tend to make the health services of dentistry available on a collective basis. Our medical friends did very much the same thing.

Now our external relationship, a policy of which we are now becoming aware, has been weak and neglected. Except for a few "John the Baptists" unwittingly the rank and file of dentists have been anti-social in their outlook; rugged individualists practising hole in the wall dental health service, without question the most expensive way of providing such service, as evidenced by the few who could avail themselves of what was, and is offered.

It does not need unusual power to observe what the general public's attitude is towards health services. They have been told that a nation's health is a nation's wealth. They have been made dental health minded by the newspapers, periodicals and radios. By a variety of slogans used by such organs, most of which we neither approve nor enjoy, the public and our returning soldiers are going to demand of our governments, that these national

assets be available in one form or another to all. Force of public opinion and circumstances have brought or are bringing our external relationship into our immediate purview and we cannot ignore the fact, that any government elected by a democratic method, will be in the position of having to evaluate the whole health picture in a broad comprehensive manner. It would seem, as a famous football coach said "The best defence is a bold offence" that now that we are beginning to comprehend the situation we are bound to work to the solution of the problems if we wish to hold our professional status.

One fact stands out in bold relief today to those of us charged with the responsibility of maintaining the home front, and that is the ground must be prepared and plans developed for the reception into civilian life of all our confrères who have devoted themselves to the service of our soldiers, sailors, and airmen. Let us clear our minds of apprehension and confusion existing so prevalently today, arising no doubt from misunder-

standings and lack of information. Even I question the ability of any government to do all the things many who think they have something to lose, think they will. However, one thing is certain, we must not let down our confrères any more than we have to, or let down our returning soldiers. Let us raise our sights much higher than they are. Be bold and more courageous. Our soldiers, sailors, and airmen have done it and are winning. Our workmen, managers, and planners have done it on the home front and are winning. Considering all the things that are being done that were said couldn't be done, with the resources of this continent, in man power, material, ingenuity, and skill, there is no question, but of victory. With all these resources, plus imagination, the winning of the peace should be possible.

Let it not be said, that in the hour of crisis at home, we Canadian dentists lacked the imagination and understanding to do our part in the creation of a plan that will make possible dental health service for all.

Vincent's Infection — Diagnosis and Treatment

by D. I. NEUMAN, D.M.D., L.D.S., Saskatoon, Sask.

IT SEEMS evident that during war time Vincent's infection is more prevalent due to more crowded living conditions, large assemblies of individuals or deficiency in diet resulting infection is a major problem in troop from national shortages. As Vincent's camps I was prompted to review and outline a treatment which during my years of practice has proven beneficial.

Unfortunately many individuals disregard bleeding of the gums or irritation which is a typical symptom of

a mild chronic Vincent's infection, and numerous cases are left untreated until the infection has assumed great enough proportions to make prolonged treatment necessary. Vincent's infection is a disease which should be given careful and prompt treatment at all times. Treatment in a dental chair which involves clearing up of infection, or opening up avenues by extraction or tonsillectomy should not be undertaken while the infection is present and can be demonstrated by smears.

There are numerous drugs and var-

ious ways of treatment, but so far no uniform treatment has resulted for these specific fuso-spirochetal micro-organisms in the oral cavity. The most important factor in treating Vincent's disease is first to relieve acute symptoms and secondly to repair tissue destruction.

Diagnosis is readily attained by a careful examination and history of the patient; gums appear red and inflamed; usually a greyish or greenish exudate around the interproximal spaces; a fetid odour and complaints by patients of excessive soreness in the mouth, and even lack of sleep in progressive stages.

Among the local symptoms, fetor, necrotic gingivitis, ulceration, oral sepsis and mucous patches are most characteristic. The disease may be contracted at any age; however, young adults are most susceptible. The incubation period is not known, for the infection may exist long before symptoms develop.

Some of the topical drugs generally used with success when supplemented by scaling and polishing of the teeth are:

1. Neoarsphenamine, 10%, applied for 10 minutes, two or three times daily.
2. Oxidizing agents usually prescribed as a mouth wash or spray.
3. Hydrogen peroxide, boric acid, potassium permanganate, etc.
4. 10% sodium carbonate solution.
5. 1-200 tincture of metaphen.
6. 10% arsphenamine in water.

Generally when a patient presents himself at the office for treatment the condition has progressed far enough that the gum tissues are too tender and sore for instrumentation. My first step is to irrigate the interproximal spaces with fairly warm water for about five minutes and remove all

superficial foreign material. Then the gum tissues and interproximal spaces are saturated with tincture of metaphen (10% sodium carbonate solution is equally as good as metaphen). Palliative relief seems almost immediate. The patient is then dismissed with the following instructions: use prescription given throughout treatment three or four times daily, full strength, and keep in the mouth three or four minutes at a time. Stop smoking, and avoid alcoholic beverages, eat a high caloric diet with a lot of citrus fruit.

Prescription:

Glycerini

Tr. Ipecac. aa. 3 v

Liq. Arsenicalis B.P. 3 vi

Liq. Hydrogen Peroxide q. s. ad. 3 iv

When the patient returns I irrigate the interproximal spaces with warm water, do a light scaling and remove some of the necrotic tissue. After the mouth has been thoroughly cleaned I saturate the gums and interproximal spaces with tincture of metaphen and tell the patient to return in 24 hours.

At the next appointment the gum tissue seems firmer, has lost its redness; no offensive odour; and the mucous patches have almost disappeared. At this sitting I remove all serusal calculus which is the most frequent of the local predisposing factors, as it produces chronic irritation of the gingival tissues and provides an excellent breeding location for the growth of bacteria. Open contacts as overhanging fillings also provide a constant source of chronic irritation and act as foci of infection. This should be eliminated at this sitting. Teeth should be polished with pumice and a rubber cup and followed by weekly prophylaxis to keep the mouth in the best hygienic state in order to stimulate regeneration of the tissues.

"A seat at the symphony does more for a dentist's reputation than does a seat at a prize-fight."

The Forum

• THE INVASION OF DENTISTRY

Editorial in Jour. of Periodontology, July 1943

WE HAVE been so completely absorbed by the present and coming invasions of foreign countries that we have been unconsciously softened up for the invasion of dentistry by the usual methods of preparing a people for such an event. Our morale has been lowered by the politicians, both in and out of the profession, public health and social service workers, and government officials, many of whom have stressed our shortcomings, condemned our methods of practice, and belittled our accomplishments in dentistry to the public. We are already agreeing with these all-wise prospective bosses of the health professions that perhaps we do not know how to practise dentistry as it should be practised; that it may be that quantity is of more consequence than quality; that the loss of the natural teeth may be of minor importance when artificial dentures can be so abundantly and quickly made at such low cost by the dental laboratory technicians; that fine restorative work may be impractical and unnecessary; that ideals of personal service for the few should be replaced by controlled and directed dental service for the many.

In this state of mind we are somewhat ashamed that we have not cared for the remaining 75% of the population which is kept constantly before us as a reminder of our sins. If we had known how Jesus fed the multitudes with a few fishes 70,000 dentists might have taken care of 130,000,000 people. It is timely to suggest that until the distribution of corn, butter, meat and soap is adequately worked out that

hands be kept off the distribution of the health services.

However, make no mistake about it, unless we change from apologists to leaders with a determination to defend at any cost our services from exploitation, dentistry will be invaded by the wasters of public funds, the politicians, and the social service and public health workers, most of whom are totally ignorant of dentistry and the importance of quality in every phase of it.

The average man is innately selfish and until he is changed to a being who is naturally unselfish there will still be some who are inadequately clothed and fed. The millennium has not yet arrived.

Dentistry actually does care about the dental health of the public and is willing and anxious to do something about it, because dentists know better than anyone how important it is. In recent years we have had enough of men ignorant of the facts about them in control of various services.

It is known that representatives of the medical profession were not consulted in the development of the medical provisions of the proposed Wagner-Murray-Dingell bill. Think that over. It is the beginning of the end unless we cease apologizing, speak out, and fight against the Peppers and similar invaders.

For many years we have been inspired by the ideals of prevention of dental ills and many, if not all of us, base our methods of dental procedures upon preventive principles such as extension for prevention in cavity preparation, protection of tooth pulps from thermal shock by the proper cavity lining before inserting a metal filling

or inlay, by attending promptly to all small cavities, and by the application of other known means of prevention. Our failure to accomplish all that we hope for in the lines of prevention is often the result of a lack of cooperation from patients, especially in the home care of the mouth, and their unwillingness to give up the necessary time for dental appointments.

Will the extensive extraction of natural teeth, the mere filling of millions of cavities with indifferent skill for large numbers of people be of much value, unless accompanied by the necessary education and cooperation of these patients in personal home care of the mouth, and in all other related health habits?

• NATIONAL HEALTH INSURANCE AND THE BEVERIDGE PLAN

by ARTHUR C. WRIGHT, L.D.S.,
Bangor, North Ireland

Condensed from Tic, October, 1943

UNDER the Beveridge Plan everyone will be entitled to participate by weekly contribution. From a health point of view he will be completely insured for medical and dental treatment. *This plan will involve a centralization of all medical and dental work done in large clinics.* There are approximately forty-four million people involved and for medical work it will be possible to manage this number as there are seventy thousand registered practitioners. Unfortunately, dentistry is at a great disadvantage. There are only twelve thousand dental surgeons in Great Britain, a number quite inadequate to handle the population.

The Beveridge Plan appears to have advanced the cause of state medicine in Britain considerably. The Government seems unwilling to abandon entirely those hospitals which are supported entirely by voluntary contribution. The view, however, is that nothing should be permitted to stand in the way of state medicine as a whole

if that is what the country wants. The medical profession will support the state medicine proposal if it is made all-encompassing. *The profession, especially those in private practice, do not like the idea too well, but will go along if all doctors are brought in and none is allowed to continue lucrative private practice on the side.*

While the Beveridge Plan is only in its discussion stage, it represents a tremendous advance in social reform. In the writer's opinion it marks a new era in the history of this country. If accepted by the Government, these Islands will set a standard for the whole world.

In conclusion, I'd like to convey this word of warning to American dentists. "Support" your dental organizations 100%. Elect strong representatives in your societies. You will need good men to fight your cause should post-war reconstruction include a reorganization of the profession.

The indifference of the average dentist has been the primary fault of the chaotic dental conditions in Great Britain. You should profit by our mistakes.

• PREGNANCY AND THE TEETH

by JESSE H. COVEN, A.B., B.S., D.D.S.,
Brooklyn, N.Y.

*Conclusions of paper, Am. J. of Ortho. and O. Surg.
Sept. 1943.*

1. The chemical nature of the diet during pregnancy plays no role in the aetiology of caries, while the physical quality may have some effect.

2. Tooth loss through periodontal lesions is probably a result of an altered endocrine balance.

3. Acid saliva caused by regurgitated material is probably the cause of most cases of pregnancy caries as caries during immediate post-partum period.

4. Fear, superstition, and neglect on the part of both patient and dentist is probably the major cause of dental disease during pregnancy.



PRINCE EDWARD ISLAND

SASKATCHEWAN

Editor—M. H. GARVIN, Winnipeg

ASSOCIATE EDITORS



D. T. Waye, Charlottetown

NOVA SCOTIA

QUEBEC



E. M. Laurin, Montreal

ONTARIO



T. R. Marshall, Toronto

P. C. Harwood, Moose Jaw

ALBERTA



S. G. Ritchie, Halifax

NEW BRUNSWICK



W. C. Carruthers, Saint John

MANITOBA



J. P. Morrison, Winnipeg

John Clay, Calgary

BRITISH COLUMBIA



H. M. Cline, Vancouver

The Core of the C.D.A. Problems

The Canadian Dental Association Delegates' Meeting was held in Montreal in October. One could not help but be impressed with the magnitude of the work facing our Association and with the willingness of prominent dental leaders to undertake that work. However, the fact remains that there isn't a prominent committee of our organization which is not either handicapped or hamstrung in its efforts on account of lack of funds. There isn't an officer of our Association also, who isn't curtailed in his activities on account of lack of funds.

The dentists of Manitoba found the answer to this problem when, at their annual meeting held November 2, in Winnipeg, a resolution was unanimously adopted to raise the fees of its members to the Canadian Dental Association to ten dollars per annum just as soon as, in the opinion of the Board, a sufficient number of the other provinces undertake to do likewise. A resolution to pay ten dollars per member whether other provinces did so or not was only lost by a small majority, so great was the enthusiasm for adequate support to the only organization capable of handling the many problems facing the practice of dentistry in Canada in these days.

It was striking also that it was the younger men who pressed for the payment of the ten dollars regardless of what others might or might not do. In other words, we witnessed a fulfilment of the biblical statement "Your young men shall see visions and your old men shall dream dreams." If the older men with their conservative viewpoint continue to dream dreams, all hail to the young men who see visions, who picture clearly what it means to have a strong Canadian Dental Association backing them in all their endeavours, blazing the trail into the unexplored field of the future practice of dentistry and representing them before all governments. Our future hope in dentistry lies in the uprising of the younger men in the profession, men who will not down. Dr. William J. Mayo said "When people have entered the seventies of their age, they usually find themselves growing conservative. As the years pass, accumulating experiences, some of them unfortunate, leave scars on the mind and spirit, with a loss of resiliency, whereas the young are given courage and enthusiasm by their successes." This loss of resiliency is noticeable at ages much below 70. However, we do know that we have many men in the older group whose arteries are not so sclerotic but that they can see the necessity of a strong national body and vote with both hands for any resolution tending to that end. But it is to the younger men that we must look for future leadership and it is indeed encouraging to see how they are measuring up to their responsibilities.

In this issue of the Journal, read Dr. Flanagan's Presidential Address; Dr. Gullett's address on Dental Health Insurance; Dr. Grace Rogers Spalding's fine article entitled "The Invasion of Dentistry" appearing in the Forum Section; and don't overlook the Empire News Section; then sit down and ponder on some of the problems facing dentistry today and you can come to but one conclusion that our fees to the C. D. A. must be raised at once.

In Manitoba, 27 per cent of our dentists are in the Dental Corps. We still have 255 men in civilian practice. The older conservative thinker says, "If we raise our dues to \$10.00 per year, that is an extra \$6.00 and if the other provinces do not follow suit, we will be paying \$1530.00 a year more than our share." The young constructive thinker says, "The Government will take at least half the \$6.00 anyway so really all it means to me is approximately \$3.00 a year or .25 a month. That is not even the slightest sacrifice if our profession is going to greatly benefit thereby." This writer is wondering how many young dentists, young mentally, we still have in Canada?

The Chinese war-time national parliament convened in Chungking in October 1942, and passed a resolution to increase the appropriation for scientific and academic researches, even while the barbaric Japanese were trying to crush them. The building of the Temple of Science has not ceased regardless of aggression, showing how these oriental people appreciate the value of science and progress, even during an unprecedented mass migration of students, both boys and girls and their professors, to the hinterland of China.

Just a little of this spirit among the dentists of Canada and the editorial pages of this Journal will be used for other purposes than to beg for funds.

Complex and manifold problems confront the dental profession. Are we going to organize and acquire the habit of thinking and acting success or are we going to putter along and be forced to accept plans which are detrimental because of the pressure of bureaucratic agencies which are not primarily interested in dentistry. Remember these words of Kipling:

"Now this the law of the jungle—

As old and as true as the sky;

And the wolf that shall keep it may prosper,

But the wolf that shall break it must die.

As the creeper that girdleth the tree trunk,

The law runneth forward and back.

For the strength of the Pack is the Wolf,

And the strength of the Wolf is the Pack."

In other words, "United we stand, divided we fall."

NOW IS THE TIME FOR ALL GOOD DENTISTS TO COME TO THE AID OF THEIR PROFESSION.

C'EST MAINTENANT, POUR TOUS LES BONS DENTISTES, LE TEMPS DE VENIR A L'AIDE DE LEUR PROFESSION.

M. H. G.

BOOK REVIEWS

A Text-Book of Orthodontia by Robert H. W. Strang, M.D., D.D.S., Director of Courses on Orthodontia and Lecturer in the Extension Teaching Department of Columbia University; Co-Editor of the "Angle Orthodontist"; consulting Oral Surgeon of the Bridgeport Hospital, Connecticut. Second Edition, thoroughly revised. Illustrated with five-hundred and sixty-six engravings and five plates. Published by The Macmillans in Canada, St. Martin's House, Toronto, Ontario. Price \$12.65.

This is a book of over seven hundred pages and of particular interest to dentists who are teaching or practising orthodontia. The first few chapters deal with the normal occlusion of the teeth and the physiology and forces associated therewith, covering the subject quite thoroughly. In dealing with malocclusion the Angle Classification is followed throughout but in this connection one should read thoroughly, chapter seven, dealing with "Case Analysis for Classification", to understand how far the profession has advanced since it was believed that

classification could be determined simply by the distomesial relation of the first molars.

The aetiology of malocclusion is fully dealt with and it might be noted that the author is now prepared to admit hereditary factors as causes of malocclusion.

The chapters on Case Analysis which "may be defined as a systematic process of study of a disease or malformation that is made subsequent to diagnostic conclusions," are well worth reading and careful study.

The author gives but a few pages to the subject of when and at what age treatment should be started but these few pages are full of good, sound, common sense, and he well says that there can be no set of rules formulated that will apply to all cases.

The author states in the preface that the chapters on treatment are new or at least entirely re-written but the influence of his friend and teacher, the late Dr. Angle, is evident throughout. In fact, the only appliances dealt with are those which might be termed the Angle appliances. The author deals briefly

with the plain labial arch but does stress the proper bending and placing of the same.

The "pin and tube" appliance, is dealt with but briefly and only in its first form, the illustration showing the round pin and tube. Yet, for many years those who use it have advocated the half round pin and tube. He mentions also, the ribbon arch, an appliance which at one time he used almost exclusively. All this, however, is just preparatory to dealing with what the author claims is the best appliance ever produced, namely, the edge-wise arch. In fact, by far the greater part of the book is a discussion of the "Tweed" philosophy and a description of the edge-wise arch mechanism. This description is most thorough, from the making and cementing of the bands on the individual teeth (placing emphasis on the fact that each band must be placed in the proper position on each tooth) to the final adjustment of the arch-wire. It is impossible to do justice, in a short review to this part of the book. The instructions given are most minute and thorough. The illustrations are many and all together the subject is dealt with in a most thorough and comprehensive manner. Anyone attempting to use this appliance can well afford to read and re-read these chapters many times. In fact, even if one does not use this appliance, they are well worth reading.

The book can be recommended to everyone practising orthodontia.

Manly Bowles.

"Oral Diagnosis" with Suggestions for Treatment by Kurt H. Thoma, D.M.D., Professor of Oral Surgery and Brackett Professor of Oral Pathology, Harvard University; Oral Surgeon and Chief of Dental Service, Massachusetts General Hospital; Oral Surgeon, Brooks Hospital; Dental Surgeon, Dental Department, Consultant in Oral Surgery, Tumour Department, Boston Dispensary and Joseph H. Pratt Diagnostic Hospital; Consulting Oral Surgeon, New England Baptist Hospital; and Consulting Oral Surgeon, Beth Israel Hospital. With contributions by Fred Trevor, D.M.D. Instructor in Oral Pathology, Harvard Dental School; Henry Goldman, D.M.D., Inst. in Oral Pathology, Harvard School of Dental

Medicine; and David Weisberger, D.M.D., Associate in Clinical Dentistry, Harvard School of Dental Medicine. 495 pages with 666 illustrations, 63 of them in colour. 2nd. Edition. Published in Philadelphia and London—W. B. Saunders Company—1943. Canadian Agents—McAinsh & Co. Limited, Toronto, 1, Ont. Price \$7.75.

This is a book which would prove a great asset to any dentist's professional library. Oral Diagnosis is fundamental to successful treatment, and here you will find a valuable aid in recognizing, interpreting, and evaluating results of an examination through an arrangement of material which facilitates treatment planning. Part I of the book deals with principles and methods of examination and diagnosis and is full of practical suggestions and interesting information. Part II deals with diagnosis and treatment of dental and oral diseases. Too often dentists are so anxious to accomplish mechanical treatment procedures that they neglect adequate time for consultation with the patient with a view to accurate diagnosis and treatment planning where the patient is given an understanding of present dental health, need of treatment, and prognosis of results.

The author in this new and revised edition has done much to assist his readers to raise the plane of their professional service to a higher level of patient appreciation. It is more than a textbook on techniques of examination, diagnosis, and treatment planning as it is also a reference book for the busy dentist and it offers a synopsis of treatment for conditions discussed. The large number of illustrations, many in colour, are a feature of the book. There is also an excellent bibliography for further study.

T. R. M.

Planning and Treatment for Bite Raising by Harry Kazis, D.M.D., Boston, Mass. 527 pages. 702 illustrations. Published by Dental Items of Interest Publishing Co. Inc. Brooklyn, New York.

During the last decade many articles have appeared on the general subject of mouth reconstruction. In this book the author presents a survey of general understanding and knowl-

edge of problems as reflected in dental literature, and discusses his clinical experience in the cases reported and described. It is pointed out that proper dental service consists not only in removing oral pathosis and restoring damaged teeth, but includes the restoration and maintenance of the masticatory mechanism as a whole to best possible function and aesthetics. The problems involved are discussed in theory and many practical suggestions offered in the prosthetic treatment of cases where bite revision offers improved comfort, efficiency, and appearance to the patient. A short bibliography of reference concludes the volume.

T. R. M.

Acrylic Resins in Dentistry by John Osborne, L.D.S. (Birm), Lecturer and Demonstrator in Dental Prosthetics, University of Sheffield. 94 pages, well illustrated. Published by Blackwell Scientific Publications Ltd., 48 Broad Street, Oxford, England. Price 8/6 net.

This interesting small book has been written with a view to supplying helpful information on the sudden swing toward the use of

acrylics in dentistry to those already fully acquainted with dental mechanical procedures. The first half of the book deals with the history, composition, manufacture and properties of acrylic resins, leaving less than fifty pages to discuss the practical application of the material. This is not enough when the author is expected to cover everything from full and partial dentures to crowns and inlays. On page 86 the author discusses the question of cementation and admits that it presents some difficulty. He offers the suggestion of the use of a "thick syrup of acrylic monomer" but states that this method requires some experience. From such information as your reviewer can gather there is a great risk to the life of the pulp where this monomer is used and a word of definite caution in experimenting with this material is in order.

The author and publishers are to be congratulated on publishing this work. A note on the fly-leaf shows that "The book is produced in conformity with the authorized economy standard."

War lays its harsh dictum even on scientific books.

Kenneth M. Johnson.

SCHOOL-MASTER ABROAD

Question:

What is the best treatment for acute pericoronal infection of the mandibular third molar region?

Answer:

(Taken from the paper on "Osteomyelitis of the Jaws" by Carl W. Waldron, M.D., D.D.S., Minneapolis, Minnesota.—*Journal of Oral Surgery*, October, 1943.)

My routine treatment of pericoronal infection is as follows:

A hot intra-oral irrigation with hypertonic salt solution or magnesium sulphate solution is used every hour or two until relief is evident. After each irrigation, a drop or two of an acceptable aqueous antiseptic solution may be instilled between the gum flap and the crown of the tooth. In selected cases, irrigation beneath the gum flap using a blunt

hypodermic needle may hasten resolution. Vincent's infection may complicate the acute condition, requiring special treatment. During this period of conservative treatment, the patient should be inactive, and it is usually necessary to employ sedatives and anodynes to control the pain, reduce the discomfort and assure sleep and rest. Should cellulitis and abscess formation occur, treatment is instituted to localize the suppuration, followed by incision and drainage. Several weeks of freedom from acute or subacute infection of a pericoronal area should be allowed to elapse before the removal of the tooth is undertaken.

It should be stressed that an acute pericoronal infection is essentially a soft tissue infection that does not primarily involve the periodontal tissues or the tooth socket proper. It is obviously poor surgical procedure to open the vascular channels of the bone by extracting

the offending tooth until the virulence of the micro-organisms has been greatly reduced and the defensive and immune mechanisms of the patient have been strengthened.

Question:—

A patient presents himself at your office for the first time. On examination you find that he has an advanced condition of periodontoclasia. You inform him of this condition and he becomes very annoyed at his former dentist, claiming that he has been going to him regularly every six months and has always been told that he did not have pyorrhea. How should you deal with this problem?

(Editor's Comment:—The above question appeared on a recent examination paper of the Dominion Dental Council of Canada. The following answers were given by two of the candidates. Number 1 is a fine illustration of how NOT to handle such a case, particularly if one does not wish to become involved in a lawsuit. Number 2 is an excellent reply to the question.)

No. 1 Answer:—

An examining dentist should not try and discredit the former dentist. In this case as the former dentist is definitely to blame, it may be difficult to restore the patient's faith in his former dentist.

One might point out to the patient that periodontoclasia is tricky to diagnose and that the dentist could easily slip up. Also the health of the patient may have deteriorated and the condition advanced to this stage during the last six months.

Discrediting the former dentist would not serve any useful purpose and could easily shake the confidence of the patient in dentists as a whole.

However, should this be a common occurrence, with the former dentist frequently endangering the health of his patients by his inadequate diagnosis and treatment, I would certainly not keep quiet.

I would inform this patient in no uncertain terms that the fault lies directly with his former

dentist and in all probability this condition could have been prevented by adequate treatments in the early stages.

No. 2 Answer:—

To answer this patient and to deal with this problem requires a great deal of tact and subtleness. This problem arises many times during the course of practice and one should be very careful in one's answer because the other practitioner may be hurt to a great extent and, we must be very ethical in our dealings. Firstly, periodontoclasia can be explained to the patient as a type of inflammation that may not have shown up to any great extent at the last visit to his former dentist. Secondly, one might explain to him that due to his masticating habits, the case has progressed to the state it is in today and is not due to any neglect or fault of his former dentist.

It is not fair to the former dentist to condemn him because the patient says that he was not informed about his "pyorrhea." We do not know what the former dentist told him only by taking the patient's word—it is quite probable that the former dentist suggested a certain type of treatment and certain care of the mouth and the patient did not find the necessary time or desire to follow up the dentist's instructions—the case may be due to extreme neglect of the patient.

But if one condemns the former dentist to the patient and belittles his work, then we are breaking faith with our profession and our code of dental ethics because the patient will always say that "Dr. A. told him that Dr. B. was no good" and we are condemning a man falsely and wrongfully.

If you feel that you want to take the case on and treat it as a new patient and new case, you are perfectly within your rights to do so, providing you are quite sure that the patient has completely severed connections with the other dentist—but, the fact that the patient complains to you about the former dentist would make you very wary and cautious as to whether to take on the case or not.

Tactfulness and subtleness in dealing with this type of patient is very important and we must always be on the lookout not to be too

hasty to falsely or wrongtully or unknowingly belittle or condemn another man's way of practice.

It is quite in order if the other dentist is a friend of yours to get in touch with him at a later date and get some necessary information about the patient. It is quite possible that the dentist will be able to enlighten you on the type of patient he is, his manner and attitude, and with this information in mind, you can deal with him.

Question:—

What are some of the characteristics of an ideal dental nurse?

Answer:—

In these busy war days we often have more patients than we can care for. However, we are building for post-war practice and what a pity it would be if a dentist or assistant should lose patients, because he or she failed to appreciate the importance of details.

Change the paper drinking cup while the patient is in the chair so that he can see you do it—he may have a phobia against using the cup of the previous patient. The patient would presume it was a fresh one but would feel better had he seen it removed from the glass receptacle.

Be businesslike—concentrate on your work.

Wash your hands before you attempt to assist the doctor and if you must leave to answer the telephone, wash your hands before resuming work at the chair.

Don't discuss the patient's teeth with anyone else in his or her presence; the patient may have a sensitive nature.

Be familiar with the location of your instruments; much valuable time may be lost trying to find that one instrument which should have a certain place and be there.

Don't become excited if an extraction proves to be more difficult than the doctor anticipated. It does not impress the patient with your ability as an assistant, and in most cases will cause alarm unnecessarily.

In every extraction, inform the patient how to take care of his mouth following the operation.

Never show annoyance with the patient who sometimes returns too frequently for denture adjustments.

Always look clean. Your hair should be neat and your finger nails short and clean.

Change your uniform frequently, don't wait until it begins to look soiled. Most people are germ-conscious nowadays.

Be sure your equipment and working tray are dustless and your windows and curtains or blinds clean. Patients' eyes wander as they sit in the chair and everything they see registers either favourably or unfavourably.

Keep your surgery and particularly your desk tidy.

Fasten the towel on the patient's neck with clips, otherwise it slips easily. Don't wipe instruments on this towel; the patient's dress may become soiled.

When cleaning a patient's teeth cover the clothing so the paste does not get on the clothes. This paste on dark clothes is particularly annoying.

Change the head-rest cover; keep it clean always.

If the doctor removes any gold inlays, bridges or dentures for the patient, return them to the patient.

Give the patient a receipt for every payment made, whether you receive cash or cheque. Better still, before commencing work, give the patient a copy in writing of the estimate already told her by your doctor.

Change scratched mirrors.

Remove labels and wash empty bottles.

Write down supply needs as noted.

Mark up appointments as made.

Change calendars as month ends.

Set aside box for saliva ejector wires.

Wind the clock.

Repair index cards.

Pick up "specks" from rug.

Rub white shoe polish off chair and table legs.

Rub smear off mirrors and windows.

Repair torn magazines.

Take a seat in the waiting-room and survey.

Hang up patient's coat.

Bring patient's purse into operating room.

Rub up soiled shoes.

Take stock of yourself: voice, manner, efficiency, appearance, interest.—*From Ontario Dental Nurses' and Assistants' Association Bulletin.*

DENTAL CORPS NEWS

Lt. Col. O. G. Shepherd

Lt. Colonel O. G. Shepherd who has recently been promoted from the rank of Major is Officer Commanding No. 29 Coy. C.D.C. and Senior Dental Officer of the Camp Borden Command.

After completing his preparatory education at Trinity College Schools, Port Hope, Ont., he enlisted in 1915 as a lieutenant in the 159th Algonquin Battalion. Overseas he transferred to the Canadian Machine Gun Corps.

Returning to Canada, he was graduated from the R.C.D.S. University of Toronto in 1923 and entered private practice at Hamilton. After ten years he moved to Sudbury.

In 1940 he enlisted as a lieutenant in the Veteran's Guard of Canada and eight months later transferred to the Canadian Dental Corps, being posted to Camp Borden with Rank of Captain. He was appointed Camp Dental Officer in July 1942, and in September 1942 was promoted to the rank of Major. In November, 1942 he assumed his present post with the newly organized No. 29 Company.

Major W. J. Gibson

Major W. J. Gibson has been appointed Officer Commanding the Canadian Dental Corps Technical Training Centre at Toronto.

Major Gibson served in the C.A.D.C. during World War I from 1916 to 1919. He was graduated from North Pacific Dental College of Portland, Oregon, in 1924 and entered private practice at Victoria, B.C. He is a past president of the Victoria Dental Society and the B.C. Dental Association and has presented many clinics in Operative Dentistry and Oral Surgery before the American Dental Association, the Western Canada Dental Society and various provincial, state and local societies.

Appointed to the C.D.C. as a Lieutenant, in January, 1940, this officer was promoted to Captain in March, 1940 and to his present rank in May, 1942. He served as Adjutant of No. 37 Coy., C.D.C. (R.C.A.F.) from April, 1941 to May, 1942. He was appointed Officer Commanding No. 36 Coy., C.D.C. (R.C.A.F.) at Toronto, in June, 1943, which post he filled until his present appointment.



SUPPLEMENTARY LIST CANADIAN DENTAL CORPS OFFICERS AS OF NOVEMBER 30, 1943

APPOINTMENTS

Rank, Name and Date	Civilian Address
Lt. (A/Capt.) T. L. Rogers, 2-11-43...	Digby, N.S.
Lt. (A/Capt.) W. M. Sinclair, 17-10-43...	Halifax, N.S.
Lieut. L. Courtemanche, 14-10-43...	Labelle, Que.
Lieut. P. E. Genier, 14-10-43...	St. Johns, Que.
Lieut. A. Jacob, 14-10-43...	Champlain, Que.
Lieut. J. P. Nadeau, 14-10-43...	Sherbrooke, Que.
Lt. (A/Capt.) G. A. MacPherson, 29-11-43...	Waterford, Ont.
Lt. (A/Capt.) J. C. Marrigan, 1-11-43...	Deseronto, Ont.
Lt. (A/Capt.) J. L. Smith, 16-11-43...	Toronto, Ont.
Lt. (A/Capt.) J. A. Christie, 1-11-43...	Norwood, Man.
Lieut. R. L. Lynn, 29-9-43...	Lethbridge, Alta.
Lt. (A/Capt.) J. G. Millar, 11-11-43...	Lethbridge, Alta.

RETIREMENTS

Rank, Name and Date	Civilian Address
Capt. L. N. Poch, 8-11-43...	Montreal, Que.
Capt. F. G. Stodgell, 11-11-43...	Windsor, Ont.
Capt. E. V. Dubiskey, 8-10-43...	Minnedosa, Man.
Capt. W. R. Parsons, 4-10-43...	Winnipeg, Man.
Capt. L. W. Gemmill, 29-9-43...	Regina, Sask.
Capt. R. Ross, 10-11-43...	Regina, Sask.
Capt. F. S. Cleall, 4-10-43...	Edmonton, Alta.
Capt. W. G. Neilson, 20-10-43...	Calgary, Alta.
Capt. L. A. Campbell, 11-11-43...	Hatzig, B.C.
Capt. G. M. Olsen, 31-10-43...	Vancouver, B.C.

Technical Training Centre

Ottawa November 11: A Canadian Dental Corps Technical Training Centre is to be opened at 12-14 Spadina Road, Toronto, it was announced by National Defence Headquarters here today. Dental officers of Canada's Armed Forces will be instructed in new methods of treatment and dental assistants and technicians will be trained at the new centre.

Conceived by Brigadier F. M. Lott, officer administering the Canadian Dental Corps, the unit will be under the command of Major W. J. Gibson of Victoria, B.C. Major Gibson has been officer commanding dental companies on the West Coast and in Ontario previous to his appointment.

Lt.-Col. G. Franklin of Montreal, lecturer at McGill University, on leave of absence, will give instruction in methods of treatment of jaw injuries. Lt.-Col. Franklin has already served overseas for over three years, specializing in such work. Other instructors will be C.D.C. officers who are graduates of the various Canadian Universities.

The centre is designed to centralize technical instruction and research activities that have been carried on in connection with the regular work of the Dental Corps. The new organization will make possible a considerable extension of this work.

The technical training program for officers will have three principal objectives. The continuous developments of the technical and professional skill of dental officers will be carried on by courses teaching current advances in the field of dental science. Training in the special requirements of military practice will be provided and refresher courses for those who because of previous specialized practice, have become more or less unfamiliar

with certain phases of dentistry.

Male dental assistants are required for overseas service, and as these do not exist in civilian life, it is necessary for the Army to train them. In the same way, the supply of dental technicians available by enlistment must be supplemented by training men within the Army.

The staff of the Training Centre will be 16 officers and 22 other ranks who will be chosen from every part of Canada.

The building to be occupied was formerly part of the Toronto Bible College. It provides excellent facilities for the purposes of the school. Dental Corps field equipment will be used largely, in order to train personnel under the actual conditions of service with Canada's fighting forces.

Dental Service on North Pacific Stations

This description of dental operations under field conditions is based on a routine report by a detachment of a dental company serving in Western Air Command, R.C.A.F.

The detachment consisted of Capt. F. L. Jacobson, dental officer in charge, Sgt. R. J. Gifford, dental assistant and Sgt. D. J. Duggey, technician. It left Vancouver, B.C., early in March last, proceeded by rail to Seattle and thence to a point in Alaska by U.S. Navy transport in convoy.

The dental clinic was established in a quanset hut. These huts are made of sheet metal and resemble a large culvert, cut in half and inverted. Electricity was provided by the camp power plant. Running water was piped in from an ablution hut located about one hundred feet away. A bucket was converted into a satisfactory fountain cuspidor and an ordinary washing machine suction connection

provided all the suction needed for surgical procedures and for the saliva ejector. An admirable operating light with three 150 watt lamps was constructed in the sheet metal workshop by R.C.A.F. mechanics. The regular C.D.C. field equipment was used in the operating room and in the laboratory.

The weather during March and April was cold, with snow and high winds. On many mornings it was all one could do to walk against the wind and sleet. Frequently the patients wore their great coats while in the chair and the vapour from their breath was not only amusing but confusing. A typical morning would find Sgt. Duffecy parka-clothed, blow-torch in hand, thawing the pipe from the showers to the clinic. Although this pipe was drained at night, the residual moisture would freeze, plugging the pipe at intervals.

"Great credit is due to the two N.C.O.s. of this detachment for their resourcefulness and cheerfulness in line of duty. The Sgt.-technician was general handy man besides his duties at the laboratory bench and the dental assistant did all the work of an orderly as well as his own. Our work kept us busy many evenings and Sundays. We proved to our own satisfaction that there is no morale problem when men are busy."

On June 20, 1943, the detachment proceeded by transport plane to an island out in the Aleutians to provide dental treatment for a fighter squadron based there. Several active volcanoes were seen during the trip and at

five in the evening we landed on a treeless barren island. This is a land of sudden sunshine, sudden rain and fog, violent winds, no trees and boredom. The beaches are littered with the skeletons and decaying bodies of mammals of the sea and various species of fish. Herds of caribou roam the treeless muskeg that stretches from the camp area to the tremendous crater that even now gives forth gaseous reminders of a greater day.

The dental clinic here was set up in one end of a quanset hut used as hospital and quarters for the medical officer. The clinic was organized and in operation by ten o'clock the next morning. We were besieged by air-men and officers complaining that a lack of calcium in the drinking water was causing destruction of their teeth and loss of fillings. Clinical observations indicated that their trouble was simply caries that had developed since their posting from Canada. This emphasized the importance of carrying dental treatment to personnel *no matter where they may be*.

Here also the station had its own electrical system and water was piped into the clinic from a couple of large barrels that were filled every morning from a nearby river.

When dental treatment here was completed the detachment was again carried by Air Transport to another island station. A total of 5,000 miles had been travelled by the detachment at the time the report was submitted.

CANADIAN DENTAL ASSOCIATION NEWS

(FROM THE SECRETARY'S OFFICE)

A Post Graduate Course in Dentistry for Children for Practicing Dentists

To be Conducted in Montreal and Toronto, during the week of Feb. 28th to March 4th, 1944.

The Course is to be held for three days, and will take place in the Faculties of Dentistry of three Universities: University of Montreal, McGill University, and Toronto University. It will embrace instruction in the newest and most accepted methods of Dentistry for Children. An outstanding specialist from the United States, and members of the teaching faculties of the respective universities will be the instructors.

The profession of dentistry is faced at the present time with the certainty that very soon every dentist will require to re-organize his practice, to provide treatments for a greatly increased number of child patients, for a large portion of his practice hours. He must prepare himself for this great change-over. This course is arranged to help him do just that.

The Course is being arranged by the Faculties of Dentistry and the Provincial Dental Boards, with the co-operation of the Canadian Dental Hygiene Council, and the Dental Public Health Committee. Write directly to the Faculty of Dentistry in Ontario or Quebec,

for full particulars. The Course is limited; applications will be considered in order of receipt.

Pan American Membership

A Pan American dinner was given by the American Dental Association in Chicago on November 20. At this dinner a dental representative of every country of the two Americas was present. This was an exceedingly fine function. The Canadian Dental Association was represented by the Secretary.

As an outgrowth of Pan American activity in dentistry, the American Dental Association has instituted Pan American membership for all dentists on the two American continents who are in good standing in respect to membership in their respective national dental organizations.

Dr. Pinney, A.D.A. Secretary, has now written the C.D.A. finally upon this matter. The main part of his letter is as follows:

"We want you to know that we very much enjoyed your visit and appreciate your coming in to see us last week. We hope you can repeat it in the near future.

"You may recall that we discussed Pan American Membership in the American Dental Association and we are pleased to advise you that this membership is now available to the members of your Association.

"We quote from our Constitution the Section covering Pan American membership for your information:

"Chapter I, Section 8. Pan-American Membership. There shall be established in the American Dental Association a membership known as Pan-American Membership. All dentists practising in the countries of the Americas, exclusive of the United States, its territorial and insular possessions, *providing they are members in good standing in their respective national dental societies*, may be eligible to membership. Application for such membership shall be accompanied by *certification from the secretary of the national dental organization in which the applicant holds membership*, together with dues of \$5.00.

"These members shall receive a Pan-American membership card and the Journal of the American Dental Association, also a copy of the Annual Meeting Program and the privilege of attending the scientific sessions."

It will be observed that Pan-American membership and the subscription to the Journal of the American Dental Association are the same amount. In addition, Pan-American membership confers additional privileges as stated above. This new arrangement by the American Dental Association is a most friendly gesture.

INCREASE IN ADVERTISING RATES OF JOURNAL

A letter was sent to all advertisers, by the Business Manager of the Journal, in notification of advancing the rate \$5.00 per page. Some replies have been received.

The following letter came by return mail from one of our supply houses and expresses such fine cooperation that it is reproduced here.

"This will acknowledge your letter dated November 1, announcing the new advertising rates for the Canadian Dental Journal effective with July 1944 issue. We can fully appreciate the problem you must have in connection with increased costs and agree with your statement that this publication must carry on its work on a sound basis.

"The renewal card which you so kindly enclosed is being returned with this letter confirming our advertising space for the period of 12 months commencing July 1, 1944, at the new rate of \$35.00 per month per page.

"Taking advantage of this opportunity to wish you and your association continued success, we remain"

The increased revenue will be used to improve the Journal. The Association realizes that the Journal is the messenger by which Canadian dentistry is now recognized. This is especially so outside of Canada. No effort should be spared to make it the best possible to represent the profession.

INCREASED PROVINCIAL GRANTS

Manitoba led the way by paying for all men in the Corps this year.

The Quebec Council at a recent meeting passed a resolution to the effect that Quebec would pay beginning 1944 for every dentist now serving in the Corps who had formerly been in civilian practice.

The Ontario Board passed a resolution to the effect that payment is to be made for all the men now in military services who were

formerly in civilian practice. This resolution was made retroactive for 1943.

At a meeting of the British Columbia Council held on December 4, a similar resolution was passed, to take effect for the year 1944.

This is fine financial news for the C.D.A. It will solve the immediate deficit as contained in the budget.

GIFTS

During recent weeks, on two occasions, the Association has received a cheque for \$10.00; both donors wished to remain anonymous. One is now a member of the Dental Corps and the other is a post-graduate student. The sentiments expressed by each were in appreciation of the work the Association is doing.

Memorandum on the Trend of the Dental Technician and Laboratory

It is estimated that approximately 90% of prosthetic restorations on this continent are being fabricated in dental laboratories. It is obviously impossible to go back 50 years. The members of the dental profession would not co-operate in returning laboratory work to the dental office. The technicians and laboratories are here to stay. How best can they be controlled to maintain the present unified practice of dentistry?

The vocation of the dental technician and the laboratory has been of recent and rapid growth.

The recent Canadian Survey shows the ratio in Canada to be 21.2 dentists to each dental laboratory.

The proper relationship of the dental technician to the dental profession has become a real problem of the dental profession. There are several plans in the process of evolution. These may be roughly classified as, those by means of legislation and those of voluntary co-operation.

(1) Those of Voluntary Co-operation

Variations of the voluntary type are in existence in Ohio, North Carolina, Maryland, Northern California, Michigan and Tennessee.

The technicians of these states have formed guilds or associations, the members of which must conform to a strict code of ethics. The Ohio State Dental Laboratory Guild is typical and in explanation of the organization, the Chairman writes as follows:

"Thus far we have not developed an official dentist-dental technician relationship in Ohio. Our Guild has made no direct attempt to secure official recognition of organized dentistry, and in fact, I do not believe the subject has been officially discussed. Our efforts have been devoted in the main to organization, acquaintanceship, and the firm establishment of Guild principles and Code of Ethics.

"However, a great deal has been accomplished in improving dentist-dental technician relations. The very fact that our Guild is founded on the principle of loyalty to the dental profession and co-operation with organized dentistry, has created an atmosphere of friendliness and good-will, which we believe is the first essential to a satisfactory official status for the technicians and laboratories. This friendliness has resulted in numerous kindnesses extended to us by important members of organized dentistry in Ohio, and by the profession in general.

"It is our belief that the dental profession can only justify the employment of a dental technician or the services of a dental laboratory, when the technician or laboratory holds to a professional concept in connection with his work, and in his relations with the dental to the practice of dentistry, by establishing a profession. Thus in effect we are attempting to establish ourselves as a legitimate adjunct professional character for the laboratories and the technicians.

"The task facing the Guild is not an easy one. We realize that while no facilities exist where the technician can be taught the basic sciences involved in his work, neither have the laboratories developed a definite apprentice training system covering the technical aspects of the work. A new committee has been appointed to study this subject, and it is hoped that with the co-operation of dental educators, that educational methods and standards can be established. It is believed that these standards can be used to establish the qualifications of a dental technician. When all this has been accomplished, we believe that organized dentistry in Ohio will officially recognize qualified dental technicians or dental laboratories who subscribe to the principles of our Guild.

"In other words, Dr. Gullett, we do not see any short-cut to recognition of the laboratories or technicians by the profession."

The code of ethics adopted by the North Carolina dental technicians and dental laboratories shows every indication of high objectives. (A copy of this code can be supplied from C.D.A. Headquarters.)

(2) *By Means of Legislation*

(a) *Through efforts of the technicians independently.*

The Quebec Bill No. 175 introduced during the last session of the legislature is a good example.

This Bill contains the following clauses:—

Explanatory Note

The object of this Bill is to incorporate dental technicians, more commonly called "dental mechanics", as a professional corporation.

7. (g)

Establish anywhere in the Province schools, colleges, laboratories, chairs and special courses; define the conditions of admission to the study and to the practice of the profession, as well as the courses of studies and subjects of examination; grant diplomas and certificates of fitness and capacity to those wishing to practice the art of dental technician; regulate the practice of the art; promote the professional advancement of its members and affiliate itself to any college, school or university as it shall deem it useful or necessary and make with such college, school or university such contracts as it shall deem proper.

13.

No one may practise as a dental technician, sell, at retail or wholesale, any oral prosthetic device, fill the directions or prescriptions of dentists or physicians for oral prosthetic devices or carry out any work on such devices at the request of a dentist or physician, unless he is a member of the Association.

14.

In the province of Quebec, the following persons only may sell, supply, make, adjust, repair or replace any oral prosthetic device of whatsoever nature:

- a. Any dentist within the meaning of the Quebec Dental Act (chap. 268);
- b. Any physician within the meaning of the Quebec Medical Act (chap. 264);
- c. Any hospital dispensary or university or municipal clinic, upon a dentist's or physician's prescription or order;
- d. Members of the Association.

The Quebec bill was withdrawn through the efforts of the Quebec Dental Board but may be re-introduced at the next session of the legislature.

New York State had such a bill enacted in 1929 which was repealed a year later at the instigation of the dental profession.

(b) *Through co-operation of the profession and the technician.*

No dental law has made provision for any form of inclusion of technicians yet, as far as is known. Several states have proposals in readiness. Florida has withheld the introduction of an amendment to the dental act for such purpose at the request of the Committee on Legislation of the A.D.A. It is felt that just as soon as any state adopts a law others may quickly follow the same pattern.

New York State has had a combined committee, representing organized dentistry and the technicians, working for some time on this subject. The report of this committee was published in the Journal of the Dental Society of the State of New York, July-August 1943. The basic points of the plan are as follows:

1. A proposed amendment to be made a part of the Dental Practice Act, covering dental technicians and laboratories.
2. The administration of the Act to be lodged with the Board of Dental Examiners.
3. A Board of at least six Senior Dental Technicians are to serve in an advisory capacity or as consultants to the Board of Dental Examiners in administering this Act.
4. A State-wide organization of registered senior dental technicians to be organized to collaborate with organized dentistry.
5. Four groups to be registered, namely—Apprentice Dental Technicians—Junior Dental Technicians—Senior Dental Technicians and *Prescription* Dental Laboratories.
6. Only persons who are licensed dentists or Senior Dental Technicians shall be qualified and permitted to own, conduct or supervise a *Prescription* Dental Laboratory.
7. The term "*Prescription* Dental Laboratory" as used herein shall mean a work-room or rooms (adequately) equipped with lathes, dies and other mechanical equipment and machinery, etc., for use in making, repair-

ing or adjusting prosthetic restorations, orthodontic appliances, on order, instruction or written prescription, for a dentist or another dental laboratory; excluding, however, the work-room or rooms operated as a part of the office or offices of a practising dentist or dentists, and their bona fide employees engaged and employed therein.

8. All three classifications of dental technicians shall be registered whether they work for a licensed dentist or a registered prescription dental laboratory.
9. Prescription Dental Laboratories shall be re-registered from year to year, on payment of a fee and while giving evidence of continued compliance with the provisions of this Act.
10. Standard requirements shall be established by the Board of Dental Examiners to qualify a Prescription Dental Laboratory for registration.

(No official action has been taken on the New York Report at this date.)

Arguments re Registering Technicians

For

1. Technicians have requested organized dentistry to do something, for years, and are now willing to become a part under any reasonable arrangement.
2. Technicians have large investment and no protection.
3. Better to have technicians with us, than against.
4. With social changes in the offing is it not wiser to get legislation now, with support of technicians?
5. No form of voluntary co-operation will prove effective.

6. Aid in controlling release of dental technicians from military services.
7. Some form of legislation is going to occur and the profession will be in a better position if some form of control is formulated.

Against

1. Licensure has failed in other countries.
2. In Germany licensure meant eventually the first step of entry into the profession.
3. By making a small change in law when it provides for technicians, the right is easily given to practise.
4. Unscrupulous technicians are quiet now but will take advantage of the situation if included in legislation.
5. Illegal practice will not be any easier to deal with—a voluntary liaison group is more effective for this purpose.
6. Legislation is always for the protection of the public.

Law enforcement is a major function of every Board, demands time and energy, and is difficult to achieve. It is the real concern of every Board, when laws are proposed to register and license dental technicians. It is known how difficult it is to enforce laws to control dentists.

In Great Britain the dental mechanics voluntarily become members of a trade union, recognized by the dental organizations.

This summary is intended to include some of the main points respecting this subject which is being actively discussed. It is imperative that mistakes should not be made through legislative procedures which may react detrimentally to the profession and to the technician.

Suit Yourself Sarge

Quartermaster Sergeant to Rookie: "Well, speak up there—how do you want your uniform—too big or too small?"

Perhaps you think that the way to keep from being tired is to stop working. You are mistaken. If you don't want to be tired, you must work. In fact, one way of looking at it is that the more you work the less tired you will be—provided you do so properly. Rest will repair damage done, but beyond that point it is weakening. Put an ordinary man to bed for a week, and he will be wobbling when he gets up.—Irene Glenn in "Good Housekeeping."

NEWS FROM THE PROVINCES

NOVA SCOTIA:

A Record for Dental Families

Triplet daughters were born to Dr. and Mrs. Joseph F. Griffin of Halifax on December 5. Latest reports indicate that the mother and children are doing well and that the father is still alive.

SASKATCHEWAN:

Regina Dental Society

This Society held its regular meeting on December 13. Dr. W. F. Smith gave a paper on "Alveolectomy in Relation to Full Denture Service." Dr. A. J. Brett led the discussion which followed in which many of the members participated.

The Society sent Christmas parcels to the dentists from Regina and District who are now in the Dental Corps in Canada or Overseas. In addition each member sent a Christmas card to one of the men Overseas. There was a good attendance of members and several Dental Corps Officers stationed in the City also were welcomed.

Moose Jaw Skating Club

At the annual meeting of this Club held early in December, Dr. A. M. Lowey was re-elected President of the Club. The Club is noted for its figure-skating activities.

Moose Jaw Horticultural Society

Dr. F. C. Harwood was re-elected President of this Society at the annual meeting held recently. Reports indicated a successful season during 1943.

Saskatchewan Dental Council

At the recent election for members of the Saskatchewan Dental Council, Dr. W. W. Irwin, Moose Jaw; Dr. W. M. Blair, Regina and Dr. E. W. Mounteer, Regina were elected. This year's council consists of Dr. W. W. Irwin, President; Dr. J. L. Connell, Vice-President; Dr. D. J. Brass, Dr. W. M. Blair, Dr. E. W. Mounteer, and Dr. L. J. D. Fasken, Secretary-Registrar.

MANITOBA:

Winnipeg Dental Nurses and Assistants Have Christmas Meeting

The Winnipeg Dental Nurses and Assistants held their Christmas meeting on December 6, at the St. Regis Hotel. After the dinner the girls exchanged gifts.

The raffle tickets were drawn. Winner of the first turkey was Nellie Diphant; second turkey was won by Mrs. W. J. Davis. The proceeds of the draw will buy overseas Christmas parcels and the remaining amount will go for other war purposes.

During the evening there was a sing song, quiz and crazy whist which was arranged by the Social Convener Miss Margaret Gilbert.

Marilynn Roland.

ONTARIO:

New Class Graduates from Faculty of Dentistry University of Toronto

On December 22, a special convocation was held by the University of Toronto to grant the degree of Doctor of Dental Surgery to the 47 members of the fifth year class in Dentistry. Of these 40 men were in the King's uniform. There were 11 honour graduates. The scholarships and prizes were awarded as follows—W. Bruce Malloch received the "Wallace Seccombe General Proficiency" award, also the "W. G. Switzer Gold Key" for proficiency in prosthetic dentistry; Robert O. Green received the "Albert E. Webster Memorial" scholarship; William T. Beatty received the first "Oral Health" thesis prize and Donald M. Wallace the second thesis prize; William A. Quigley received the "Wallace Seccombe Memorial" scholarship for highest standing in preventive dentistry and William J. Hambly was awarded the "Students Parliament" prize.

Following the Dominion Dental Council examinations held later in December the graduates on active service will proceed to their stations in the Canadian Dental Corps located in the various military districts in Canada.

On December 14 the Faculty Staff tendered the graduates a complimentary dinner. Dean Mason presided over this function in his accustomed easy and informal manner. A

toast was presented to the class by Dr. Geste Perkin, honorary class president and responded to by class president Bruce Malloch. A toast to the University was proposed by Bob Green, president of the Students Parliament and was responded to by Rev. Harold Young, D.D.

Dr. Young in masterly fashion left a message with these young men and women who have just completed their academic course in dentistry that will long remain in their memories. He spoke of a little survey he conducted in which he asked his friends this question "If you could choose, what period of history would you choose to live?" The answers indicated that one in twelve would prefer the present age of difficulty, contradiction, frustration, and hardness, yet full of opportunity and adventure. Dr. Young admonished his youthful audience to be men and women of character, and suggested there was no substitute for character; "Be men and women of courage and faith and honour. Yes, see to it too you maintain your skill and knowledge," he said, "Be abreast of the times, aspiring to the top; but most of all live for something bigger than yourselves, something bigger than self interest." Then he told a story of a lighthouse keeper who risked his life in a hazardous sea to save three men from certain death. And concluded "What are you going out to live for?" His obvious answer was "service".

During the evening Dr. Wendell Holmes presented "D's" to those who won these tokens of athletic ability. Entertainment was provided by S. H. Seetner, an accomplished pianist of the class, and by the school quartette—Messrs. Don Hillier, Ross Richardson, Bob Campaigne, and Lorne Brunton. Dean Mason concluded the banquet by reading a Christmas message of goodwill and hope for peace in the new year.

T. R. M.

Bay of Quinte Dental Society

The annual meeting of this society was held in Belleville on November 24. Dr. Jack Marshall presided. Dr. Frank Martin of the Faculty of Dentistry, University of Toronto, and Dr. T. R. Marshall, secretary of the Dental Public Health Committee of the Ontario Dental Association, were guests of the society.

Dr. Martin gave two presentations—one in the afternoon on crown and bridge prosthesis and one in the evening on a modified immediate denture service following removal of the teeth. Dr. Marshall addressed the assembly of Belleville Collegiate students in the afternoon and projected the Association's sound film "About Faces". Both the Mayor and the Chairman of the Board of Health attended and spoke briefly. In the evening Dr. Marshall spoke to the dentists indicating the necessity for every dentist taking part in Dental Public Health education as a part of their service to the public.

During the business session of the meeting the following officers were appointed for the new year—Past President—Dr. Jack Marshall, President—Dr. J. R. Guthridge, Sec. Treas.—Dr. R. H. Empson, Directors—Dr. Beatty, Napanee, Dr. Renton, Trenton, Dr. Fraser, Madoc, Representative to Public Dental Health Committee of Ontario Dental Association—Dr. Jack Marshall.

Toronto Academy Day of Clinics

The Academy of Dentistry, Toronto, chalked up a new high in attendance at its Winter Clinic, held at the Royal York Hotel on December 1, 1943, when over 500 dentists, dental officers, nurses and students from Toronto and other points throughout the Province attended. Over forty clinicians participated in a program of unusual interest, presented under the direction of Dr. Harold Skilling, President-Elect of the Academy and Chairman of the Winter Clinic Committee.

Each year, it seems, the Winter Clinic establishes a new record of performance, and this year the enthusiastic interest which began with the opening group clinics was sustained throughout the day. Beginning at 9.30, Dr. M. Russell Stein of New York City, presented a clinic on "Colour in Teeth," in one room; and simultaneously in different rooms, Dr. Charles H. Moses of Hamilton, Ontario, spoke on "Stabilized Full Denture Impressions"; Dr. S. W. Leslie, Toronto, on "Drugs Useful in Dentistry"; Dr. C. H. M. Williams, Toronto, on "Treat the Pyorrhea Pocket Rationally"; Major W. J. Gibson, Toronto, on "Diversified Operative Procedures"; and Dr. S. A. MacGregor, Toronto, on "Dentistry for Children". At 10.45, the second session

clinics began with Dr. Moses repeating his 9.30 presentation; Dr. O. S. Clappison, Toronto, discussing "Crown and Bridge"; Dr. W. L. Hugill, Toronto, "Synthetic Porcelain"; Dr. R. G. Ellis, Toronto, "Dentistry for Children"; Dr. R. M. Patterson, Detroit, Mich., "Acrylic Re-Lining of Dentures"; and Dr. G. P. Kensley, Brooklyn, N.Y., spoke on "Statcal Impression for Complete Upper and Lower".

In the afternoon at 2.30, Dr. Stein, Dr. Clappison, Dr. Williams, Dr. MacGregor, Dr. Patterson and Dr. Leslie repeated their morning clinics; and at 3.45 Dr. I. H. Ante, Dr. F. Martin and Dr. J. H. Johnson presented a clinic on "Immediate Insertion," while Major Gibson, Dr. Ellis and Dr. Kensley repeated morning clinics, and Dr. G. A. Morgan discussed "Interpretation of Dental X-rays"; Dr. P. W. Arkle provided an interlude of relaxation by his presentation of coloured movies of "James Bay with its scenery and its Indians."

Over three hundred attended the luncheon meeting at noon, when Gordon B. Jackson, K.C. of Cooksville, Ontario, was the guest speaker. The title of his address had produced some conjecture among the guests, for the program had outlined it as "Sweat." Mr. Jackson's enunciation of "sweat" as a premise for success followed the pattern which has been laid down by Mr. Winston Churchill in his famous declaration that "blood, and sweat, and tears" would be required to win the war. Thus "sweat", in the mind of Mr. Jackson became good, honest, hard work—without which, he declared, that neither the war, nor the peace to follow, could be won; and he prophesied that the group of nations to win this war will be that group which first realizes the spiritual significance of its responsibilities, rather than the purely material or physical superiorities.

Following the afternoon clinic sessions, relaxation came with "dinner at six," with over three hundred again in attendance. Dr. R. P. Lowery, of Toronto had piqued the interest of the guests by choosing "Think" as the title of his address, and he, too, stressed the need for a keener realization of the responsibilities which we have to our fellows, and particularly, the responsibility which men of the dental profession have to the public in general, as regards the people's health. The challenge of his message was an inspiration



DR. RON. H. GALBRAITH
President, London Dental Society
Dental Clinic

to men of the profession. A floor show brought this period of relaxation to a close, and at eight o'clock, the evening table clinics were presented.

Twenty-four of these table demonstrations filled the large Banquet Hall, presided over by dentists, nurses and assistants, in addition to exhibitions by members of the dental trade associations and others advertising in the Academy Year Book. The innovation of having these table clinics well spaced, on raised platforms proved to be a popular method, as it enabled members of the various groups to see the demonstrations more easily.

Well beyond the ten o'clock closing hour, groups lingered to discuss the events of a most interesting and instructive day.

Toronto Study Club of Dental Technicians

The Annual Banquet and Business Meeting of the Toronto Study Club of Dental Technicians was held in October 1943.

The Banquet, which was provided by the Ash-Temple Co. Ltd., had as our guest of honour, Mr. H. P. Temple, President of the firm. Mr. Temple is an outstanding personality in the Dental Trade and a man whom we all respect and highly esteem.

Mr. "Bud" Williams, of the Williams Gold Mfg. Co., was a guest speaker. His subject was "Preparing for Post-War Conditions."

The entertainment, provided by the Stan. Hoskins Revue Party, was one of the highlights of the evening.

Mr. Bill Taylor, our retiring president, referred to the spirit of coöperation among our 37 members which made it possible to deal with some important social and economic matters during the past 3 years of his presidency.

The following officers and board members were elected for the coming year:

Honorary Member, Chas. L. Daly.

President, Chas. E. Spence.

Vice-President, Wm. L. Walker.

Secretary, "Rolly" Rollaston.

Assistant Secretary, Harry H. Posen.

Treasurer, Bus Brown.

Executive Board:

Art C. Whitley

Chas. K. Mellish

Jeff. Tippet

Sergeant at Arms:

Jack Washbrooke

Jim Price was appointed Liaison Officer to the Dental Assignment and Procurement Board. *Wm. L. Walker.*

The Ontario Dental Nurses' and Assistants' Association

THE PATRIOTIC DONATORS AND KNITTERS CLUB:—As we go to press for our final issue for 1943, the P.D.K.C. committee wish to thank those who have helped in our work for the forces, and from the committee to our provincial war convener, Mrs. Leta Blaber of Toronto, we say: "The success of our club has been due to your leadership and hard work."

To the Dental Trade Association for their generous annual cheque.

To Denco (Ontario) Limited and their Staff for their continued assistance with our Tin Foil salvage.

To Dental Products for providing a market for our decapped Carpules.

To Mr. Wm. McTavish for his huge gift of Carpules to Margaret Aiken.

To Dr. E. A. Hughes of Sarnia for his huge gift of Carpules (Decapped).

To Lura Edwards and her Committee for the splendid results derived from the sale of painted models.

To Arlene Creeny and her Committee for the splendid assistance derived from the sale of Magazines.

To Ethel Roberts, Mary Cooper, Mrs. Aiken, (Margaret's Mother), whose knitting needles have never been idle, and to all our knitters who for four years have made it possible for the P.D.K.C. to ship thousands of knitted comforts overseas.

To the War Conveners and Members in each of our Affiliated Associations for their faithful co-operation, and generous cheques.

To the Editors of the Journal of the Canadian Dental Association for the space donated to the P.D.K.C. monthly report.

TORONTO A.A. through the kind invitation of the Academy of Dentistry attended the annual "Winter Clinic" night at the Royal York Hotel. Dr. Charles McLean arranged for the girls to attend the dinner and entertainment. In the evening some of our Toronto members gave clinics. We would like to thank the Academy of Dentistry for the space donated in which to display the work of the P.D.K.C. also the magazine table from which we could make sales.

WINDSOR A.A. spent the evening in the discussion of the proper Care of Office Equipment. Plans for a December party were arranged.

NIAGARA FALLS A.A. had Miss Ruby Wallace, librarian of the Niagara Falls Public Library as guest speaker of the evening. She gave us a very interesting book review on three of the most outstanding books of the present time, namely, *A Tree Grows in Brooklyn*, *Valley of Decision*, *Journey Among Warriors*.

BRANTFORD A.A., Pharmacy was the subject of a most interesting address given by Mr. Freely of Robertson's Drug Store, to the members assembled at the home of Olive Kean.

Irean C. Bruce.

QUEBEC:

Resolution

At the November meeting of the Quebec Dental Board, a resolution was passed increasing the grant to the Canadian Dental Association to an amount equal to \$4.00 for each Quebec dentist serving in the armed forces.

The Montreal Dental Club

The November meeting of the Montreal Dental Club was held in the Club Room, 1414 Drummond Street, on November 22.

There was an important Group Discussion on "Acrylics." Those taking part in the discussion were Drs. J. S. Dohan, A. D. Angus, W. C. Bushall, I. K. Lowry and J. W. Gerrie.

In addition to these speakers, Dr. A. L'Archeveque spoke on the "Proposed Licensing of Dental Hygienists." He said that in the Province of Quebec a campaign was instituted some time ago for better dental hygiene. Several radio broadcasts were made by local dentists. In one of these lectures over the radio, one of the speakers made mention of "immediate denture service" stating that no person need go without teeth, as artificial teeth could be inserted as soon as the natural ones were extracted. The result of this one broadcast caused a flow of patients to the dental offices for immediate denture service which shows that with more dental education to the public, the present number of dentists would not be sufficient to supply the demand. Speaking in favour of dental hygienists to assist the dentists in this province, Dr. L'Archeveque said that on taking a vote on this question, it was found that two thirds of the dentists were favourable towards the use of dental hygienists. Further the College of Dental Surgeons of the Province of Quebec had passed a resolution in favour of passing a bill to permit the College to make its own laws to govern the hygienist. Some of the proposed laws are as follows:

1. No one will be allowed to practise as a dental hygienist without first obtaining a licence.
2. Must be a Canadian subject.

3. She must have completed four years of high school.

4. She must be 19 years old or more.

5. She must take a course in one of the recognized universities which will consist of two years (for a graduate nurse, one year).

6. All dentists in good standing will be permitted to employ one or more hygienists.

The hygienists duties will consist of prophylaxis, giving information on dental hygiene to the patients and assisting in dental offices.

The meeting was conducted by the President-elect, Dr. Reg. Winn. Light refreshments were served at the conclusion of the meeting.

E. M. Laurin.

Chinese Student Leads Dentists

Following a meeting of the Senate of McGill University November 17, it was announced that Wah Leung, a Chinese student, led the fourth year dental class in the final examinations. Leung, whose home is in Edmonton, Alberta, formerly lived in Montreal. He will do a year's internship at the Royal Victoria Hospital.

Montreal Dental Nurses and Assistants

The Montreal Dental Nurses' and Assistants' Association held its regular monthly meeting in the Club Rooms at 1414 Drummond Street on November 23 at 8.15 with Dr. John Gerrie as guest speaker. "Plastic Surgery and Skin Grafting" was the subject of his interesting illustrated address.

The Montreal Dental Club Prize for Table Clinics given at the Annual Fall Convention, was presented to Suzanne Lamarre for her clinic on Sterilization.

The following officers have been elected for the coming years:—President, Margaret Good; Vice President, Mildred Fincher; Recording Secretary, Marie Keenan; Treasurer, Suzanne Lamarre; Corresponding Secretary, Norah Johnson; Membership Committee, Mel Rundle; Program, Jean Newell, Publicity, Lois Rapley; Clinic Convener, Mildred Starr; Social Reception, Kaye Burns.

Lois J. Rapley.

Money may not buy happiness, but with it you can be unhappy in comfort.

EMPIRE NEWS

NEW ZEALAND:

NEW ZEALAND SCHOOL DENTAL SERVICE

Received from Office of the High Commissioner for New Zealand, Ottawa, Ont.

The inception of the School Dental Service dates back to the year 1919 when, immediately following the Great War, the Government of the day decided to institute such a service. As a beginning, six dental surgeons were appointed. They were attached to the staff of the Education Department, and were stationed in various parts of the Dominion. In 1920, a Chief Dental Officer was appointed, and the officer selected for this position was Colonel T. A. Hunter, C.B.E., Director of the New Zealand Army Dental Service during the Great War.

Colonel Hunter's proposal for developing the School Dental Service was that the personnel should consist of specially selected young women trained as school dental nurses. This proposal was regarded by many as a revolutionary one, and it gave rise to a spirited controversy within the ranks of the dental profession, a large section of whom feared that a satisfactory school dental service could not be built up on such lines. Eventually, however, the New Zealand Dental Association gave its formal approval of the proposal, and the first draft of young women to undergo training as dental nurses was appointed in 1921.

Now, more than 20 years after this controversy took place, the dental nurse personnel of the School Dental Service is accepted by the profession and the public alike as an established part of the dental organization of the Dominion. The services of School Dental Nurses are in demand throughout the country, as indication that they have earned the confidence of the public. On the professional side, it can be said that, within their special sphere, the School Dental Nurses maintain a standard of treatment that meets with the approval of the profession. This is evidenced by the reports of successive external examiners (practising dental surgeons) who conduct the final examinations for dental nurses, as well as by the comments of visiting dental surgeons from other countries, and of dental practitioners into whose hands school dental clinic patients have passed.

The first draft of school dental nurses completed their two years' training in 1923, and each year since then new school dental clinics have been established, according to the number of dental nurses available.

Accelerated Expansion Decided Upon:—

At the end of 1935, when the present Government took office, a policy of rapid expansion of the School Dental Service was decided upon, and to the Department was set the task of completing the service to the extent of making it available to all the primary schools in the Dominion within a period of five years.

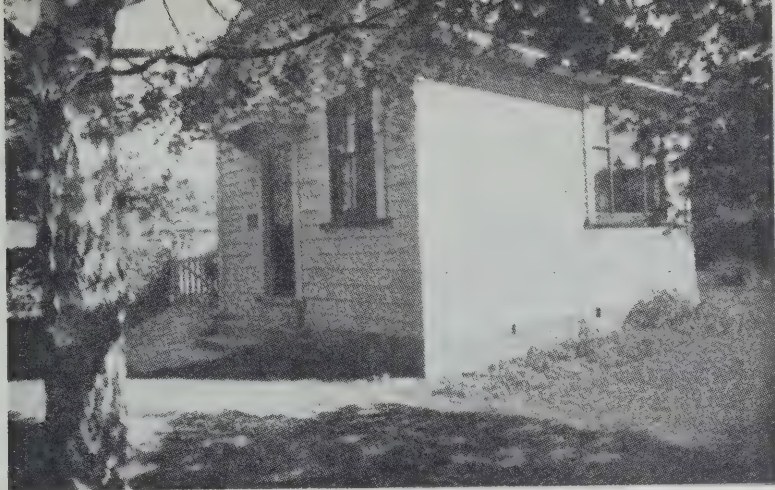
Although the realization of this objective was retarded by war conditions, such progress has been made, that relatively few schools now remain uncatered for.

Organization of the Service:—

The service is organized and controlled by the Director of the Dental Division of the Department of Health, who is assisted at Head Office by the Principal Dental Officer. The service is organized in six units, each of which is controlled by a senior Dental Officer, who is directly responsible to the Director. These officers are the Principal of the Dominion Training School for Dental Nurses, and the Senior Dental Officers in charge of the five dental districts into which the Dominion is organized.

The Principal of the Training School is responsible for the training of the school dental nurses, and also for the efficient operation as a public institution of the Children's Dental Clinic which is an integral part of the Training School. During the present period of expansion there are normally about 150 student dental nurses in training at any one time. They commence training in drafts of not more than 40 at six-monthly intervals.

Each Senior Dental Officer in charge of a District is responsible to the Director for the efficient operation of the school dental clinics in his district, in accordance with the policy



A Typical Dental Clinic at a School

laid down by the Department and the Standing Instructions of the Service. The average number of school dental nurses in each district at present is 70.

Functions of the School Dental Service:—

The functions of the School Dental Service are:—

(1) To improve the standard of dental health of the school children, and wherever possible, of pre-school children from 2½ years of age, by affording them regular and systematic treatment at six-monthly intervals over a period of years. Treatment is commenced in the primer classes, (and earlier wherever possible), and is continued to Standard VI of Primary Schools and Form II in the case of Intermediate schools.

(2) To instruct the children in the principles of oral hygiene and the preservation of the teeth. For this purpose there is within the Dental Division an organization for Health Education.

Selection of Candidates for Training:—

Positions in the School Dental Service are much sought after, and consequently it is possible to maintain a high standard. Education, health and personality are all taken into consideration in selecting candidates. Preference is given to those who have passed the University Entrance Examination or School Certificate Examination. A high standard of physical fitness is demanded, and a special Medical Board examines all candidates before they are finally selected. Chests are x-rayed

as a routine procedure; special attention is paid to the feet and to the throat; candidates must have their natural teeth. All candidates who fulfil the primary conditions laid down are interviewed by a selection committee before the appointments for the year are made.

Appointees are required to enter into an agreement to serve for not less than 5 years, including the two years' training period. At present, while the Service is being rapidly expanded, 80 Student Dental Nurses per an-

Dental Clinic



num are being appointed. These enter in two groups of 40 at six-monthly intervals. To cope with the increased numbers, a temporary auxiliary Training School has been established in Wellington, the former Prime Ministerial residence having been made available for this purpose. It is estimated that it will be necessary to have a staff of 500 School Dental Nurses in the field when the service is fully developed, and the new Training School in Wellington, which was completed in 1940, is designed to train 50 per year, which will be sufficient to maintain that number in the field.

Training of School Dental Nurses:—

The course of training is set out in the booklet "How to Become a School Dental Nurse". It will be noted that during training, Student Dental Nurses are accommodated in the Department's hostels for Dental Nurses. These are conducted in association with the Training School.

The Principal of the Dominion Training School for Dental Nurses is assisted by a staff of 8 Dental Surgeon instructors and 7 Tutor Sisters. For Clinical operative dentistry, the aim is to have an instructor for every 10-12 Student Dental Nurses.

The final examination, which includes written, oral and practical tests, is conducted by selected private dental practitioners of high standing in collaboration with the Principal of the Training School.

Organization of School Dental Clinic:—

Prior to the establishment of a school dental clinic, the Senior Dental Officer in charge of the District confers with the local people in order to determine what schools are to be served by the proposed clinic. A Dental Clinic Committee is set up to attend to the local financial aspect, and to look after various other matters of local administration. In determining which schools are to be served by the clinic, the guiding factor is that when the work is fully developed, one school dental nurse is expected to control 450-500 patients, on a basis of a six-monthly revision.

In areas where 500 patients cannot be conveniently concentrated for treatment at one centre, one or more sub-bases are established. There should be not less than 100 children

at any one sub-base, and the total number of patients for the area must not exceed 500.

The records kept by each School Dental Nurse are designed to give a complete history of the treatment of each patient, and they provide a system by which the name of every patient comes to notice every six months.

School Dental Nurses are officers of the Department of Health, but they are "attached for special duty" to the staff of the school at which their clinic is situated. Thus they come under the general jurisdiction of the Headmaster, but their actual controller officer is the Senior Dental Officer of the District.

Nature of Treatment Given:—

Treatment includes fillings in both deciduous and permanent teeth, the extraction of deciduous and permanent teeth where necessary (using local anaesthetic only) and prophylaxis; no root treatment is undertaken. Treatment is standardized as far as possible. Copper amalgam is used in all deciduous teeth, silver amalgam in permanent posterior teeth; and for permanent anterior teeth special silicate cements are used. The procedure known as prophylactic odontotomy is practised extensively as a routine procedure with marked success; copper amalgam is used for this purpose.

Control and Supervision:—

The School Dental Nurse in charge of a clinic (there may be two School Dental Nurses in a Clinic, but normally not more than two) is under the direct control of the Senior Dental Officer of the District. She receives her instructions from him, and all official correspondence is conducted with his office. The Senior Dental Officer is consulted in regard to any patients who present conditions which appear to require special treatment. All returns and reports are submitted to the Senior Dental Officer of the District, who in turn has them tabulated for transmission to the Director.

The Senior Dental Officer visits all clinics in his District at frequent and irregular intervals. Inspections are made under four main headings:—

(1) The cleanliness and general appearance of the clinic, and the correct and tidy appearance of the Dental Nurse in uniform.

(2) Checking of records and examination of them in order to ascertain the position of the work. If, for example, it is found to be slipping into arrears the reason is sought, and arrangements made to recover the position. If, on the other hand, it is found to be well ahead, the School Dental Nurse may be withdrawn for a period to assist at another clinic.

(3) Inspection of operative work. For this purpose patients are selected, and their mouths are examined minutely with mirror and probe. Special attention is devoted to the quality of the operative work and to detecting any incipient cavities that may have been overlooked.

The children are questioned on the principles of oral hygiene to ascertain the effectiveness of the Dental Nurse's teaching.

(4) Headmasters and officials of Dental Clinic Committees are visited in order to maintain close contact with the local organization.

The Senior Dental Officers of districts are assisted in their duties by special selected Dental Nurse Inspectors, who have themselves had long experience as School Dental Nurses.

Staff of the School Dental Service:—

The professional staff of the Service as at 31st March, 1943, was as under:—

Summary of Activities of School Dental Service for the year ended 31st December, 1942:	
Staff of school dental clinics (excluding Training School)	373
Number of school dental clinics (including sub-bases)	387
Number of schools served by clinics	2,120
Number of children under systematic treatment	146,496
Total number of operations	1,334,719
Total operations since inception of Service	12,057,748
Ratio of extractions to fillings	9.4 extractions to 100 fillings
No. of Dental Health Education Activities	4,094

Planning of Post-War Dental Services

Condensed from a letter to the Secretary of the New Zealand Dental Association from the Director of Dental Hygiene.

In connection with its program of post-war reconstruction, the Government proposes to undertake a considerable expansion of Health Services.

The Government takes a long-range view of the development of Health Services, and its ultimate aim is that the State should assume the full responsibility for providing such services. It is not expected that this aim will be realized immediately.

In considering dental services, the community may be divided roughly into three categories:—(1) the pre-school and the primary and intermediate school groups; (2) the adolescent group; and (3) the adult group. The first of these groups is already being catered for by the School Dental Service.

Turning now to the second—or adolescent—group, no organized service has yet been provided, but it will be recalled that one of the earliest pronouncements of the present Government was that it intended to provide dental services for the pupils of post-primary schools.

It is considered that the first stage in the

future development of dental services should be to build up an organization to deal with this adolescent group. Such a development would involve the creation of a body of salaried dental surgeons. Possibly it will be necessary to grant an increasing number of bursaries to carefully selected students to ensure a sufficient flow of suitable recruits.

It is evident that it would take a considerable number of years to build up a complete service for the adolescent group on these lines. However, the Government looks still further ahead, towards the time when the principle of a salaried dental service can be applied to the third, or adult, section of the community, as it seems likely, having regard to the modern trend of Health Services in general, that ultimately most, if not all, of the community will be catered for by salaried services. It is as well to envisage a comprehensive National Dental Service as it might function in the future—school dental clinics for the children of pre-school and primary school age, and others for the pupils of post-primary schools and for adolescents in business and industry; clinics equipped for group practice to serve the urban and suburban communities, each with several general dental practitioners (according to population), and a proportion of

dental surgeons specializing in anaesthesia, extractions, x-ray, prosthesis, orthodontics, preventive dentistry, oral surgery, etc., together with the necessary dental technicians, trained dental attendants and clerical staff; similar clinics in association with industrial undertakings, each to serve one or more factories, etc., according to size and location; smaller clinics in the rural areas, augmented where necessary by mobile clinics, and receiving periodical visits from the various specialist dental personnel; an educational branch to work in co-operation with the existing Departmental organization to disseminate information on dental health, and to encourage the care and preservation of the natural teeth in the interests of general health, using up-to-date methods that would appeal to the people; and finally a research department to investigate the cause of dental disease with special reference to conditions in this Dominion, where the incidence of dental disease is acknowledged to be very high.

There are two matters, however, that are so closely associated with the principles outlined above as to merit careful attention at this present stage. One is the training and status of dental mechanics and their place in a National Service; the other is—assuming that properly trained expert mechanics have a place in such a service—whether it is necessary for so large a proportion of the dental curriculum to be devoted to Prosthetic Dentistry. It is suggested for consideration that this might well be reduced, and more time devoted to Preventive Dentistry (including nutrition and dietetics) and Public Health Dentistry.

Yet another important matter is that of affording adequate opportunity for advancement in a National Service. Full provision for this is considered vital to the success of a service.—*New Zealand D. Jour.*

The Future of Dentistry

Condensed from an Editorial in the New Zealand Dental Journal, replying to the above letter by the Director of Dental Hygiene.

In this communication it is intimated that the Government has in mind certain principles which it considers should govern the development of future dental services in the Dominion.

It is to be regretted that the Association was unable to take the initiative in this matter, but unfortunately, owing to a lack of unanimity, or perhaps lack of interest among members, this apparently has been impossible.

However, at the moment we are not so much concerned with the scheme as with the relation to the expansion of the present School Service to give a comprehensive dental service to those up to 18 years of age. Otago Branch was willing to agree to this particular part of the scheme provided the work was carried out by salaried dental surgeons as suggested in the Director's letter.

It is to be hoped that due recognition will be given to the fact that health education is a social problem demanding a broad vision, and should be approached from a point of view of environment, economics, food habits, occupational pursuits and the general intelligence and educational level of those whom it may seek to enlighten.

This letter touches on many other matters that are of vital importance to the future of dentistry. And perhaps not the least important may be said to be that dealing with dental education. Indeed, as a contemporary writer puts it, the dental curriculum has remained practically unchanged in principle for at least 100 years. That new methods have been taught and new subjects added from time to time is admitted, but in spite of this, according to the same writer, modern dentistry has remained the same for years, the dominating ideal being the development of the technological and mechanical aspect. But surely the time has now arrived for a review of the situation and the substitution of other disciplines of more immediate and superior value to the young practitioner. By this we mean the recognition of the biologic concept and its application as a vital factor, and the one of primary importance to the dentists of today. In any case it would appear that such a view is essential in this Dominion where the present State Dental Service and its proposed extension in the near future will be likely to make an ever increasing demand for a personnel of dental surgeons trained to undertake dental work of a protective and preventive nature, and who will ultimately take their place in that great movement which is slowly but surely gaining

impetus for the establishment of a health, instead of a sickness service.

This endeavour may mean the breaking with the older order of things, and may even cause many heart-burnings. But let us think not so

much of that as of the great services the profession can render in a worthy cause, and go forward to our task fearlessly and with that determination and courage without which no achievement can be possible.

GENERAL NEWS

Dr. Harry Thomson Made Honorary Member

At the last meeting of the Board of Delegates of the Canadian Dental Association, Dr. Harry S. Thomson, Field Secretary of the Canadian Dental Hygiene Council, was made an honorary member of the Canadian Dental Association.

The Canadian Medical-Dental Society of Kiska

A Canadian Medical-Dental Society of Kiska was formed on September 14, 1943, composed of the medical and dental officers of the Canadian forces which have occupied this island.

The society meets each Monday evening when topical subjects are presented for discussion and problem cases are considered.

The first regular meeting was held on September 20. The meeting had a 100% attendance of Canadian medical and dental officers in this force.—*Can. Med. Assoc. Jour.*

Latin American Dentists Spend Two Weeks in Chicago

Twenty dentists representing as many Latin American republics recently spent two weeks in Chicago primarily for post-graduate study at Northwestern University Dental School.

The dentists were selected on a competitive basis by the dental societies of their respective countries. Among the requirements for selection was an understanding of the English language, a thirty-five year age limit, and at least three years in practice. Their passage to and from the United States was paid for by the United States State Department, and their tuition and living expenses by the Kellogg Foundation of Battle Creek, Michigan.

From Chicago the dentists went to Philadelphia to spend two weeks in post-graduate study at the University of Pennsylvania.

A Challenge to Civilian Dentists in the U.S.A.

(A Challenge also to Canadian Dentists,—Ed. *Jour. C.D.A.*)

A nation-wide Physical Fitness Dental Program is now being conducted by the Council on Dental Health with the cooperation of the United States Office of Education and the United States Public Health Service. A recent issue of *Education for Victory*, the official publication of the United States Office of Education, carries a leading article in which dental care is stressed as an important aim of education in wartime. Educators and school health workers are called on to support the dental fitness program as one of the essentials in the various states and local communities.

This program presents a striking example of the cooperation of organized dentistry with federal and state health and educational agencies and is a direct challenge to the private dentist on the home front. Many dentists in private practice are finding themselves hard pressed to keep up with the demands of patients for service. The induction of dentists into the armed services has left many communities without private practitioners in the face of increased demand and population shifts due to war activity.

The civilian dentist, no matter how pressed by adult patients, owes it to himself as a professional man to give priority appointments to high school boys and girls who will soon be helping, directly or indirectly, to fight the war in which their country is engaged. How well dentists respond to this urgent call will do much to determine the professional regard shown them by these government agencies in the future.

This program presents a splendid opportunity for the dentist at home who has been wondering how he can help to contribute to the war effort. Here is a job which the

dentist alone can do. He can make dentally fit, and thus more efficient, the young men and young women who are about to take up the burdens of war. This is your job. Are you going to accept this challenge?—*A.D.A. Council on Dental Health*.

The British-American-Canadian Surgical Mission to the U.S.S.R.

by WILDER PENFIELD, F.R.S., M.D., F.R.C.S.,
Montreal, Quebec

Excerpt from Can. Med. Assoc. Jour. Dec. 1943

This Surgical Mission remained three weeks in Moscow and its vicinity on the invitation of the Soviet authorities. During that time we were treated with every courtesy and consideration. The Commissar of Public Health introduced us to leaders in Soviet surgery, discussed problems of military surgery, and arranged for us to see those things which interested us most at the front as well as elsewhere. On each of these prearranged visits we found the surgeons themselves hospitable and most congenial.

During two years of war their casualties have reached staggering figures, approaching 6 million, and 70% of the injured are said to have been returned to the fighting line. They have lost many that were near and dear to them. Thirty million of their countrymen were, at the time of our visit, beyond the German lines in occupied territory. They have faced defeat and repeated evacuation which dislocated their laboratories and institutions.

Soviet war surgery is well organized, efficient, modern. Soviet medical education is likewise established on a sound and adequate basis. The discovery that the Red soldier is receiving such satisfactory surgical treatment is apparently as surprising to the general public as was the evidence of military efficiency on the part of the Red Army.

I believe also that there had been a feeling among the members of our medical profession that it was a pity the Russians were cut off from the advantage of knowing about our work. No doubt all of us in the Surgical Mission shared that feeling to some extent. However, while visiting some large hospitals close to the front line I suddenly began to appreciate that their surgeons felt the same way, but in the reverse direction. It seemed

to them that it was a pity that we had been cut off from knowledge of their work during the time that they were developing war surgery among vast numbers of wounded, and when other allied nations were dealing with what they considered to be comparatively few casualties.

Dental Treatment at the Front

Mr. Frank Gillard, the well-known correspondent with the Fifth Army, writes with much appreciation of the dental treatment which he received in a tent representing the dental centre near the front. The whole district was being shelled at the time, and a few hours before his visit two big bombs had been dropped in the area. He states that the whole treatment was most painlessly and efficiently carried out, and concludes: "The fact that the dental service was there this morning carrying on, shells or no shells, shows how carefully we safeguarded the health of our men in this war."—*Dental Record*.

1943 Callahan Award to Arno. B. Luckhardt

The Callahan Memorial Award for 1943 was awarded to Arno B. Luckhardt, Professor of Physiology at the University of Chicago and member of the Council on Dental Therapeutics of the American Dental Association for the work leading to his discovery of ethylene-oxygen anaesthesia.

A New B Vitamin

A discovery linking a new B vitamin, folic acid, with blood cell production in the body has been made at the National Institute of Health at Bethesda, Md. This is the first time a vitamin has been linked with white blood cell production, although a relation between vitamins and red cell production has been hinted in two or three previous reports. An article in "Public Health Reports" by Dr. Floyd S. Daft and Dr. W. H. Sebrell, U.S. Public Health Service, states that folic acid will cure the anaemia and white blood cell destruction caused in rats by sulphur drugs.—*Science*.

The Approach to Diagnosis

Two extracts from an address by Professor R. V. Bradlaw under the above title and read



Semi-Annual Meeting of the Canadian Dental Trade Association held at the Ritz Carleton Hotel, Montreal, Tuesday, October 19, 1943. Seated from left to right: M. E. Bower, Dental Co. of Canada; L. E. Thompson, Dental Co. of Canada; J. H. Watson, Denco (Eastern) Limited; T. H. Temple, Ash-Temple Co.; Jas. Johnston, Dental Co. of Canada Ltd.; J. M. Wickett, S. S. White Co. of Canada; D. L. Lawrie, L. D. Caulk Co. of Canada; Al Lays, Dentist's Supply Co. of New York; Dr. H. A. Thompson, Dental Co. of Canada Ltd.; A. C. Neate, Goldsmith Bros. S. & R. Co. Ltd.; H. L. Nussbaum, Goldsmith Bros. S. & R. Co. Ltd.; H. G. Harris, Ash-Temple Co. Ltd.; H. P. Temple, Ash-Temple Co. Ltd.; P. N. Alexander, Dominion Dental Co. Ltd.; J. C. Paterson, Paterson & Paterson Inc. Standing left to right: Alex Cox, Maritime Dental Supply Co. Ltd.; S. Winters, Novocol Man'g. Co. of Canada Ltd.; E. A. Bell, Maritime Dental Supply Co. Ltd.; W. McTavish, National Refining Co. Ltd.; Elmer Berndt, Cook-Waite Co., New York; Dr. V. H. Hudon, Dentist's Supply Co. of New York; J. McTavish, National Refining Co. Ltd.; W. W. Gaffney, L. D. Caulk Company; C. A. McKenna, S. S. White Co. of Canada Ltd.; W. G. Austin, Ash-Temple Co. Ltd.; Rene Pettigrew, Denco (Eastern) Ltd.; M. C. Williams, Williams Gold Refining Co.; Raoul Simard, Paterson & Paterson Inc.; T. A. Laidlaw, Cook-Waite Co. Inc.

before the British Dental Association at the last Annual Meeting, are worth repeating: "This is a machine age and some dental surgeons seem to think that they can put a patient into a machine and get a ticket out of a slot with the diagnosis written on it. Nothing could be more unsatisfactory nor further from the true spirit of dental scientific enquiry. Always the emphasis must be on the personal factor. It is on the interpretation of the facts that diagnosis depends and not on the facts alone". . . "To sum up, there are three pieces of equipment which are essential for accurate diagnosis, and in many ways they are the most expensive equipment which

can be provided in any dental surgery, namely, careful observation, clinical experience and sound judgment."—*Dental Record*.

Oral Hygiene in 1568

In "The Birth of Mankind, The Woman's Booke," Thomas Raynalde seems to have shown a tendency to foreshadow Fones. He says, "To keepe and preserve the teeth cleane. If they be very yellow and filthie or blackish let a Barber scoure, rub, and pick them cleane, it shall be very good to rub them every day with the root of a mallow, and pick them cleane that no meate remayne and putrifie between the teeth."—*Br. D. Jour*,

IN MEMORIAM

Harold Clark in his 82nd year, died suddenly on December 14 at his home, 44 Willcocks Street, Toronto.

Dr. Clark graduated from the Royal College of Dental Surgeons of Ontario in 1893. He immediately began practice in Toronto where he continued until he retired in 1939. Following graduation he was appointed professor of *Materia Medica and Therapeutics*, a post he held until 1908. At the time of his death he was a member of the University of Toronto Senate and of the Royal Canadian Institute.

Dr. Clark was always actively interested in his profession. He was intimately associated with the late Dr. R. G. McLaughlin in promoting the "Dentists Legal Protective Association of Ontario" and was still its active president. Dr. Clark was a life member of the Toronto Academy of Dentistry since 1934. He was an honorary member of the Royal College of Dental Surgeons and had represented his colleagues on the Board of Governors of the Ontario Dental Association.

Aside from Dentistry Dr. Clark had many interests. For many years he was a member of the Toronto Mendelssohn Choir and its first vice president for 25 years. He was also a member of the Toronto Choral Society and the Haslem Vocal Society.

He was a skilled craftsman, having designed and made many ingenious and useful articles. He was a versatile conversationalist, being capable of intelligent discussion of many subjects. His personal library contained over three thousand books. He was an active member of the Toronto Canoe Club, the National Club, the Empire Club, and the Canadian Club. He greatly enjoyed the fellowship of intimate friends.

Surviving are his widow, one daughter, and one son.

Solon Woolverton of London, Ontario, died on December 9 in his 99th year.

He was a graduate from Victoria Medical College, and a Medical College in Pennsylvania. In 1871 he was granted a license to

practice dentistry in Ontario by the Royal College of Dental Surgeons, after examination.

Dr. Woolverton was associated with Dr. Curtis Chittenden at Hamilton and practised at Grimsby, Smithville, and Beamsville until 1880. From 1880 until his retirement in 1935 he practised in London. He was an honorary member of the Royal College of Dental Surgeons of Ontario.

He led an active life and had many interests outside of dentistry. He was a private under Capt. Wm. Nelles of Grimsby in the Fenian Raids of 1866. He was an instructor for a number of years in *Geology* at the University of Western Ontario, London. He possessed a large collection of relics in natural history, etc. He was a member of the Canadian Order of Foresters, Odd Fellows and Maccabees. During the visit of the King and Queen to Canada, he was introduced to them. Upon his retirement in 1935, he presented his diploma, turn-key, models, and books, to the Royal College of Dental Surgeons.

In October last Dr. and Mrs. Woolverton celebrated their seventieth wedding anniversary.

He is survived by his widow, one son, and three daughters.

Frederick W. Tweddle of Fergus, Ontario, aged 82, died on November 5.

Dr. Tweddle was graduated from the Dental School of the Royal College of Dental Surgeons in 1890. He began practice in partnership with Dr. G. A. Reid in Fergus. Later he took postgraduate studies in Philadelphia and on his return set up practice in Seaforth. In 1903 he returned to Fergus but left shortly afterwards for Innisfail, Alberta. In 1916 he joined the Canadian Army Dental Corps and served overseas. On demobilization he again opened practice in Fergus where he continued until his retirement in 1936.

He was a member of the United Church. He is survived by one son, two daughters, and five grandchildren.

... SECTION FRANÇAISE ...

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenent, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Venne, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAUDEAU, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

Les dents temporaires

Plus loin dans ce numéro vous trouverez l'annonce d'un cours complémentaire sur la dentisterie des enfants. Ce sera ni de trop ni trop tôt.

Il s'en trouvera peut-être pour affirmer que sauver les dents des enfants ce sera sauver celles de la population. Vaine utopie, nous ne ferons pas plus disparaître la carie que les médecins ont fait disparaître toutes les maladies. Si l'homme a été condamné à la souffrance par la faute originelle, il n'en a pas moins reçu l'ordre de lutter contre tout ce qui peut porter atteinte à sa vie. S'il faut la gagner, il faut aussi la conserver, d'où la noblesse de la médecine, l'utilité des laboratoires, des recherches et pour nous l'obligation de charité professionnelle de combattre sans cesse les maladies de la bouche et surtout la carie. Or, il semble bien qu'il soit logique de commencer par les enfants. De la sorte nous atteindrions deux buts. Le premier serait de soulager les petits de beaucoup de souffrances tout en protégeant leur dentition permanente et le second serait de leur inculquer l'habitude de l'hygiène buccale.

De ce côté avons-nous fait notre devoir? Sans doute quelques-uns méritent des louanges, mais en général admettons que les praticiens n'aiment pas traiter les enfants et les reçoivent à contre coeur, peut-être parce que nous y voyons trop de difficultés et des résultats trop peu satisfaisants. C'est possible, mais ne serait-ce pas aussi parce que nous ne savons pas suffisamment comment nous y prendre? Or, savoir s'y prendre ne diminuerait-il pas nos difficultés en multipliant les résultats encourageants?

Or, on nous affirme qu'avant longtemps nous serons forcés de traiter plus d'enfants. Aussi bien nous préparer tout de suite en allant suivre les leçons d'experts dans ce genre de travail et qui sait si dans la suite nous n'aimerons pas ce qui nous déplaisait tant.

(La rédaction)

La conjonctivite dentaire

Dr. EMILE BLAIN, M.D.

Quelle étrange association de mots! Pourtant, si exagérée qu'elle paraisse, cette appellation n'en correspond pas moins à des faits. Je sais bien qu'on ne la trouve pas dans les catalogues orthodoxes. Mais, pour peu que vous y pensiez, vous la rencontrerez peut-être chez des clients; et en somme, c'est ce qui compte.

La littérature médicale mentionne plusieurs affections de l'appareil visuel en rapport avec les lésions dentaires. Elle rapporte des cas d'iritis de ce genre; elle signale des complications orbitaires, rattachables par les sinus maxillaires, à une étiologie dentaire; elle parle de certaines périostites gingivales gagnant la cavité osseuse de l'oeil pour y atrophier le nerf optique; elle décrit même avec Parinaud et Morax, un abcès fistulisant du rebord inférieur de l'orbite, ayant une cause identique.

Mais il existe une autre manifestation oculaire, qu'on trouve moins souvent dans les traités d'ophtalmologie que dans la pratique des yeux: c'est ce que j'appelle, en forçant un peu la note, la "conjonctivite dentaire".

La conjonctive est la muqueuse transparente qui tapisse le segment antérieur du globe et la face interne des paupières. Elle est lisse et possède normalement une vascularisation très discrète. Mais, sous l'influence de divers facteurs, cette fine trame nourricière peut se dilater, et prendre une teinte rouge assez accentuée: c'est l'hyperhémie ordinaire.

S'ajoute-t-il à cette coloration, une sécrétion visible de la conjonctive, on dit qu'il y a conjonctivite.

Ces conjonctivites, variables à l'infini, sont dans la majorité des cas, d'ordre infectieux. L'examen microscopique des exsudats révèle le plus souvent, la présence d'un ou de plusieurs agents microbiens, animés des pires intentions: strepto, staphylo, pneumo, gono, etc.

Mais ces maladies oculaires résistent mal à un traitement approprié soit de la cause locale, soit de la condition éloignée; il s'agit alors d'administrer judicieusement l'antiseptique voulu.

Tout autre est l'allure de la conjonctivite dentaire, que je veux essayer de décrire.

L'affaire éclate sans beaucoup de signes prémonitoires, et la symptomatologie est dominée par une hyperhémie aussi soudaine que tenace.

Unilatérale d'emblée et définitivement, elle s'accompagne d'une photophobie intense, que les lunettes les plus noires ne parviennent pas à soulager. Cette crainte de la lumière se manifeste par un spasme des paupières, et celles-ci en clignotant tentent d'éviter la morsure du soleil ou de la lampe électrique. Entre ces écrans protecteurs, s'écoule un flot de larmes, qu'on pourrait appeler les larmes de la résistance.

Aussi bien, cet amas inusité de liquide trouble-t-il par son volume, la fonction de l'oeil intéressé. Hors de là, la conjonctivite dentaire ne semble pas affecter autrement l'acuité visuelle.

L'exsudat sécrété par la conjonctive malade n'est pas abondant, et le microscope n'y découvre guère autre chose que la flore coutumière à ce milieu, sans type spécifique. Si à ce moment, on a la maladresse de recouvrir l'oeil d'un bandeau occlusif quelconque, la poussée congestive favorisée par la chaleur et le manque d'aération, dégénère rapidement en une conjonctivite infectieuse véritable. Par contre, l'oeil laissé à l'air, s'encombre rarement d'un tel ennui.

La douleur ressentie est de faible intensité. Il s'agit moins d'un élancement réel que du malaise général d'un oeil qui se défend vainement contre la lumière et l'oedème de sa conjonctive.

D'apparence aigue chez les uns, la maladie évolue chez les autres, sous une forme chronique. Et, naturellement, les symptômes vont de pair avec l'allure clinique.

Insupportables chez les premiers, ils peuvent n'incommoder que fort peu les autres.

Chose curieuse, quels que soient les médicaments employés dans l'oeil, gouttes, pommades, lotions, bains, ils demeurent tous souverainement inefficaces. On dirait même que la médication ophtalmique ne fait qu'exaspérer les maux déjà existants. Et, perplexes, on doit chercher ailleurs.

C'est alors, que si une saine curiosité nous fait examiner la bouche du patient, on bute fatalement sur une dent louche, (le plus souvent enfermée dans une armature de métal) située au maxillaire supérieur correspondant. Elle est là, depuis bien des années, dix, quinze, ou vingt peut-être. Couronne qui n'a rien de royal, elle recèle des faiblesses de régime, même si elle conserve encore une splendeur trompeuse.

Interrogé, le patient défend d'habitude l'inculpée avec véhémence, jure de son innocence, et pense en lui-même, que l'enquêteur n'a ni goût ni flair, pour accuser ainsi un ornement dont il est si fier. Serré de près, il avoue que la dent est un tout petit peu sensible au froid ou au chaud, mais si rarement. . . D'ailleurs, s'empresse-t-il d'ajouter, la mise-en-cause a été examinée dernièrement par un homme de l'art, qui l'a déclarée impeccable.

On peut rester sceptique devant tant de protestations. Et il arrive qu'une nouvelle opinion est demandée au dentiste. On va même jusqu'à exiger un contrôle radiographique; voyez-vous cela! . . . Quelle obstination!

Quand le résultat de ces recherches revient négatif, et que l'oeil continue de pleurer son dépit, on a quelquefois le droit de se fier davantage à son sens clinique, qu'à l'image photographique.

Devant un rapport positif, le traitement ou l'avulsion dentaires s'impose, au risque de troubler la symétrie buccale, et de peiner le patient.

On raconte, ce que je ne crois pas d'ailleurs, qu'on a vu des dentistes se refuser à cette manoeuvre, et suggérer plutôt au patient de changer d'oculiste. Ce qui fut fait (oh! il y a bien longtemps de cela).

Mais l'histoire ajoute que la loi des compensations entra alors en jeu. Et l'oeil rouge, avide de nouveau, changea du même coup de dentiste, fit traiter ou extraire l'objet du litige, et s'en trouva fort bien.

C'est probablement une légende. Mais ce qui ne l'est pas, c'est que dès que la méchante dent est éliminée, les symptômes oculaires s'évanouissent comme par enchantement. Il ne reste bientôt plus qu'un souvenir plus ou moins désagréable. Rougeur, photophobie, épiphora, vision brouillée, tout a disparu sous l'effet de la rugine, de l'ion bienfaisant ou du davier extirpeur. C'est l'affaire de quelques heures, de quelques jours tout au plus, et l'on pense à autre chose. . .

Je ne saurais expliquer dans ses moindres détails la pathogénie d'une telle complication. Mais, j'ai eu plusieurs fois l'occasion d'en constater l'occurrence et l'évolution.

Il n'existe pas d'autre moyen effectif d'y remédier, que d'employer la thérapeutique à distance. Et parce que cette affection a son origine et sa cure au niveau des dents, je me permets de la baptiser "conjunctivite dentaire".

3464 St-Denis

Montréal.

2 décembre, 1943.

Les modalités bactériologiques et Cliniques de l'infection dentaire chronique

Par les Drs Ch. GRANDCLAUDE et Ph. LESBRE

La notion de l'infection dentaire considérée dans toutes ses manifestations locales et générales est encore des plus confuses tant au point de vue de la pathologie générale

que de la bactériologie et de la clinique. Si, en raison de leur caractère épidémique redoutable, le domaine des infections rhino-pharyngées a été minutieusement exploré, celui des infections proprement bucco-pharyngées commence à peine à être entrevu. Il offre encore un large champ d'application aux méthodes anatomopathologiques, bactériologiques et expérimentales. Ce sont ces méthodes que nous avons parallèlement mises en œuvre depuis plusieurs années et dont nous synthétisons ici les premiers résultats.

La base d'un semblable travail est évidemment dans la détermination précise du caractère bactériologique de l'infection locale, les infections secondaires métastatiques et générales se rattachent ensuite aisément à des types bactériologiques et cliniques nettement individualisés. Nous avons eu particulièrement en vue les formes chroniques des infections dentaires, suppurations gingivales, alvéolaires, telles qu'on en observe dans la pyorrhée, granulomes, trajets fistuleux etc. . . .

ETIOLOGIE DES INFECTIONS DENTAIRES CHRONIQUES.—L'examen direct, les cultures, la recherche des germes dans les coupes histologiques démontrent l'importance prépondérante et la constance dans toutes les formes d'infections dentaires des streptococques.

La discrimination classique des deux espèces streptococciques et entérococciques par des caractères aussi relatifs que la morphologie, l'apparence des cultures, le développement en eau peptonée ou en bouillon bile, nous a engagés à adopter cette désignation mixte qui montre bien la position intermédiaire de nombre de ces germes relativement à ces caractères. En réalité, le type entérocoque pur qui ne peut être solidement défini que par sa vitalité plus considérable, c'est-à-dire pas sa résistance supérieure à la chaleur, au vieillissement et aux antiseptiques, est relativement rare: nous avons montré que la résistance des cultures en bouillon à l'optochine pouvait donner un critérium rapide de pratique. Nous renvoyons pour les détails de bactériologie pure à nos publications antérieures et ne mentionnerons ici que les caractères les plus essentiels. Le pouvoir hémolytique est le plus souvent nul ou très faible, ses degrés les plus atténués ne pouvant être pratiquement appréciés que par cultures sur gélose au sang en couches très minces. Les streptocoques viridans et hémolytiques seuls classiquement reconnus comme pathogènes sont rares ou exceptionnels. Or, le pouvoir pathogène expérimental, faible dans la plupart des cas pour les souches non hémolytiques isolées chez des sujets exempts de toutes complications, est cependant indéniable; leur inoculation chez le lapin entraîne une cachexie progressive et des lésions glomérulaires au niveau du rein.

Le pouvoir toxigène également très faible peut cependant être mis en évidence par des intradermoréactions: nous avons démontré sur le cheval, la possibilité d'immunisation contre ces toxines faibles par les toxines fortes de streptocoques hémolytiques.

De même que quelques auteurs, nous avons noté d'autre part une accentuation du pouvoir hémolytique en rapport avec l'activation du processus évolutif. Les statistiques américaines ont enregistré la plus grande fréquence des streptocoques hémolytiques dans les affections aiguës. La virulence, le pouvoir hémolytique et l'activité toxigène doivent donc être considérés comme des variables susceptibles d'exaltation ou d'atténuation parallèles. Dans l'unité fondamentale de l'espèce streptococcique toutes les transitions se présentent entre les trois variétés, str. non-hémolytiques, viridans et hémolytiques.

L'étude des bacilles fusiformes et des spirochètes est encore imparfaite au point de vue bactériologique en raison de la difficulté de leurs cultures. Plusieurs variétés au moins morphologiques de spirochètes et de bacilles fusiformes sont rencontrées au niveau des dents; mais, si la symbiose de Vincent paraît jouer au point de vue pathologique un rôle prépondérant nous admettons avec Kritchewsky et Seguin qu'il est impossible de délimiter le rôle respectif de ces diverses variétés, et qu'il faut jusqu'à plus ample informé considérer en bloc leur action pathogène. On rencontre,

soit isolément, soit simultanément, les bacilles fusiformes et les spirochètes. Le bacille fusiforme est le plus fréquent; il semble que le spirochète disparaisse rapidement en présence de la concurrence vitale de germes banaux.

La fuso-streptococcie est infiniment plus fréquente que la fuso-spirochètose. Les bacilles fusiformes qui se présentent souvent en filaments doivent être soigneusement distingués des spirochètes auxquels Sanarelli a voulu les assimiler.

S'ils sont difficiles à obtenir en culture pure, il est aisé de les cultiver en association avec les streptocoques: et alors, ils sont virulents pour les animaux de laboratoire s'ils se développent avec les streptocoques. Par injections sous-cutanées et intrapleurales chez le lapin de ces cultures mixtes, nous avons obtenu des lésions à la fois nécrotiques et hémorragiques entraînant la mort de l'animal. *In vivo* comme *in vitro* ces bacilles se développent donc dans l'ombre des streptocoques.

Les spirochètes moins fréquents, parce que plus fragiles, se présentent sous plusieurs types: buccalis, dentium, Vincenti. Ils sont généralement associés aux bacilles fusiformes, surtout dans les pyorrhées et les gingivites ulcéreuses.

Les staphylocoques dorés sont assez rarement rencontrés et peuvent jouer un rôle épisodique dans les suppurations locales.

Parmi les bacilles anaérobies, doivent être retenus les bacilles perfringens que nous avons fréquemment reconnus et cultivés, parfois même en très grand nombre.

Ainsi, de tous les germes innombrables qui ont pu être recueillis dans le carrefour buccal et dont le rôle hypothétique a été invoqué par tant d'auteurs, seuls restent réellement déterminants de l'infection dentaire le groupe des strepto-entérocoques associés ou non aux fusospirochètes, aux staphylocoques et à quelques bacilles anaérobies.

Ce sont précisément ces germes que nous retrouvons dans les déterminations de voisinage et à distance des infections dentaires.

PATHOGENIE.—Nous n'insisterons pas sur la pathogénie de cette infection dentaire dont les données fort simples sont depuis longtemps reconnues.

La stagnation des débris alimentaires dans les interstices des dents avec les fermentations secondaires qu'elle provoque est l'amorce même de cette infection. Grâce à son pouvoir acidifiant, le streptocoque, toujours présent, fait brèche dans les tissus dentaires, entraînant plus ou moins à sa suite des bacilles fusiformes, des staphylocoques ou des anaérobies. Les bacilles fusiformes de même que les spirochètes ne sont décelables dans la cavité buccale qu'après l'apparition du système dentaire pour lequel ils présentent donc une spécificité relative.

La diffusion de ces germes dépend évidemment de la forme d'infection dentaire considérée: elle est portée au maximum dans les larges suppurations pyorrhéiques, elle est minima dans les granulomes où les germes sont pour ainsi dire séquestrés derrière un rempart conjonctif. L'étude des infections à distance déterminées par ces différents microbes nous permettra de préciser dans chaque cas les conditions de généralisation.

LES INFECTIONS D'ORIGINE DENTAIRE.—1° *Streptococcies.*—Les streptocoques non hémolytiques des infections dentaires envahissent fréquemment le pharynx en donnant lieu à des angines ou à des sinusites; ils peuvent également passer dans la circulation générale et donner lieu, soit à des affections aiguës ou subaiguës, septicémies ou endocardites, soit à de simples lésions d'élimination, néphrites parcelaires latentes. Cependant ce passage n'est pas constant et ne paraît se produire qu'après une longue période d'adaptation: chez un malade présentant depuis 2 mois des décharges streptococciques dans le sang, nous n'avons obtenu le streptocoque en quantité minime qu'après 4 jours d'hémoculture.

Nous avons observé plusieurs cas d'endocardite maligne où l'étiologie dentaire était nettement apparente. L'un d'eux nous a permis de donner une démonstration étiologique absolue: il s'agissait d'un état septicémique évoluant depuis 2 mois qui avait été précédé cliniquement de phénomènes infectieux très douloureux au niveau

d'une molaire. Dans le suintement purulent localisé que nous fûmes appelés à constater au niveau de cette dent, l'examen direct et les cultures décelèrent à l'état pur un streptocoque non hémolytique dont l'inoculation intraveineuse au lapin provoqua une endo-péricardite mortelle. L'hémoculture pratiquée ensuite permit de retrouver dans le sang, après 4 jours de culture, un germe identique au premier par tous ses caractères et déterminant également par inoculation une endocardite mortelle. D'autre part, un lapin vacciné par des injections répétées du germe d'hémoculture résista parfaitement à l'inoculation du streptocoque dentaire et son sérum présenta à un haut degré des propriétés d'agglutination et de déviation du complément pour les deux souches. Le malade, soumis à des influences contraires, refusa l'intervention d'un stomatologiste. Cependant, l'auto-vaccinothérapie, temporairement pratiquée, provoqua une rémission manifeste. La mort survint par localisation endocardique, peut-être du fait de l'abandon de toute thérapeutique étiologique. Nous rappelons les détails essentiels de cette observation parce qu'ils permettent de rattacher la lésion valvulaire à l'infection dentaire par tout le faisceau des preuves cliniques, bactériologiques, sérologiques et immunologiques. Elle confirme d'une manière éclatante le pouvoir pathogène des streptocoques non hémolytiques et même la possibilité de leurs tropismes électifs, reconnue par Rosenow.

Certains cas de rhumatismes peuvent être également rattachés à la généralisation de l'infection streptococcique: cette diffusion peut être directe à partir de la dent infectée ou se faire par l'intermédiaire d'une étape pharyngée, angine ou sinusite. Nous rappelons à ce sujet l'observation d'un malade ayant présenté une polysinusite homolatérale à la suite d'un accident aigu de la dent de sagesse et, consécutivement, des poussées rhumatismales avec décharges streptococciques urinaires.

Nous avons signalé que le streptocoque pouvait envahir insidieusement le torrent circulatoire sans donner lieu à des phénomènes septicémiques et s'éliminer par le rein en déterminant des néphrites parcellaires généralement latentes. L'examen systématiques des urines nous a seul permis de reconnaître ces lésions chez plusieurs pyorrhéiques. L'albuminurie était nulle ou à l'état de traces, les altérations cytologiques réduites à une leucocytose minime, mais des streptocoques étaient décelés dans les culots de centrifugation ou les cultures. Dans quelques cas même, ils n'apparaissaient que tardivement dans les bouillons ensemencés par transformation de leurs formes filtrantes et l'élimination de celles-ci pouvait succéder à celle des formes normales. Ces faits cliniques doivent être rapprochés des résultats expérimentaux que nous avons provoqués chez le lapin au moyen des mêmes germes.

Les ulcères digestifs ont été également rattachés par certains auteurs à l'infection dentaire: les quelques souches isolées d'ulcères gastro-duodénaux que nous avons pu étudier, ne nous ont montré aucun tropisme électif sur l'animal le type entéroccoccique s'est montré beaucoup plus fréquent, sans doute en raison de la résistance nécessaire aux sucs digestifs.

Dans toutes ces observations d'infections métastatiques les suppurations alvéolaires ont été seules en cause; nous n'avons pas eu l'occasion de confirmer le rôle des granulomes que les guérisons obtenues par éradications dans de nombreux cas tendent à mettre en valeur: il est probable que de tels foyers d'infection souvent latents, doivent répondre dans bien des cas aux streptococcies dites endogènes.

Il nous paraît logique enfin de rattacher la présence fréquente de formes filtrantes streptococciques que nous avons mises en évidence dans les ganglions cervicaux à cette diffusion des germes dentaires.

2° FUSO-SPIROCHETOSES D'ORIGINE DENTAIRE. — A la suite des streptocoques, les bacilles fusiformes et les spirochètes peuvent donner des infections de voisinage et à distance.

Nous avons retrouvé des bacilles fusiformes associés aux streptocoques dans 80% des angines banales; l'association typique de l'angine de Vincent étant infiniment plus

rare. La fuso-streptococcie dentaire nous paraît donc présenter un intérêt clinique plus étendu que l'association fuso-spirillaire; cette fuso-streptococcie peut même donner un type assez caractéristique d'affections amygdaliennes caractérisé par un aspect à la fois hémorragique et suppuratif.

Les streptocoques associés aux bacilles fusiformes et aux spirochètes se retrouvent dans l'angine de Ludwig.

Les complications broncho-pulmonaires dues aux fuso-spirochètes (bronchite de Castellani, Gangrène du poumon), sont rattachées par la plupart des auteurs à l'infection dentaire. Dans les gangrènes du poumon proprement dites interviennent en outre les anaérobies de Veillon. Nous avons observé chez une jeune femme des poussées successives de congestion pulmonaire avec expectoration sanglante renfermant de nombreux fusospirochètes morphologiquement identiques à ceux qui pullulaient au niveau de ses gencives atteintes de lésions hémorragiques chroniques.

Enfin, nous devons signaler le rôle épisodique que peut jouer l'infection dentaire staphylococcique dans la furunculose et attirer l'attention sur celui qui paraît revenir au bacille *perfringens* d'origine dentaire dans certaines déterminations rhumatismales où il a été isolé et étudié sous le nom de bacille d'Achalme.

CONCLUSIONS.—Cette étude nous permet de reconnaître qu'en raison des défaillances habituelles de l'hygiène buccale, le système dentaire est par excellence un point d'accrochage et un foyer permanent pour l'infection. Cette infection a pour agent déterminant et essentiel le streptocoque non hémolytique dont le pouvoir pathogène est nettement établi par la clinique et par l'expérimentation.

Si nous reprenons le parallèle entre les infections rhino-pharyngées et les infections proprement bucco-pharyngées, nous voyons que la seule différence essentielle est l'absence dans ce groupe d'infections nettement spécifiques et propagées d'individu à individu d'un état de virulence bien définie. L'infection streptococcique dentaire pose le problème irritant parce qu'encore irrésolu des variations de virulence.

Nous avons noté les rapports qui pouvaient exister entre ces variations et les modifications du pouvoir hémolytique. Quel rôle revient dans les exaltations de virulence à l'adaptation progressive des germes, aux conditions de milieu, à l'action de virus filtrants tels que celui de la grippe, à des défaillances organiques imprécises? C'est en somme le problème de l'autogénèse formulé par Kelsch que les épidémiologistes ont confortablement enterré mais non résolu en lui substituant la conception étroite mais prophylactiquement satisfaisante des porteurs de germes. Cette dernière conception s'applique d'ailleurs aussi bien à certaines manifestations cliniques groupées dues à la transmission de streptocoques présentant un tropisme électif. Une telle opposition étant donc bien plus théorique que réelle, le parallélisme s'affirme entre les deux groupes d'infections en ce qui concerne l'importance primordiale du foyer primitif, le mode d'envahissement et les conséquences prophylactiques et thérapeutiques en découlant. Or, une étape intermédiaire de l'infection dentaire, angine, sinusite, etc., peut être fréquemment prise pour le foyer original.

En effet, si l'effort étiologique est maintenant remonté jusqu'à la notion de l'infection focale amygdalienne, il n'a pas été jusqu'à envisager le système dentaire qui est trop considéré aussi bien dans l'opinion médicale que dans celle des stomatologistes comme un microcosme indépendant.

La banalité même du streptocoque dont les tropismes électifs sont exceptionnels; la multiplicité de ses portes d'entrée, la polyvalence de son pouvoir pathogène, sont d'ailleurs un obstacle évident à une détermination précise. Cependant grâce à son association avec un germe plus spécifique de l'infection dentaire, le bacille fusiforme, nous avons pu démontrer que 80% des angines banales devaient être rapportées à l'infection dentaire. En ce qui concerne les endocardites infectieuses, l'irréfutable démonstration biologique que nous avons donnée, nous permet de soutenir que l'infection dentaire streptococcique de tropisme électif est à l'endocardite maligne ce

qu'est la rhino-pharyngite spécifique du diplocoque de Weichselbaum à la méningococcémie. Cette démonstration biologique rigoureuse est évidemment exigible pour l'attribution à l'infection dentaire de toutes les métastases que la clinique seule, parfois appuyée sur le succès d'une thérapeutique portée sur le foyer primitif, tend à lui attribuer.

Nos observations cliniques et expérimentales permettent d'affirmer le rôle de cette infection streptococcique dans certaines lésions rénales, néphrites parcellaires habituellement latentes et de délimiter un chapitre précis dans le cadre anciennement connu des néphrites d'origine pharyngée.

Dé même, nous croyons pouvoir situer un rhumatisme dentaire streptococcique dans le groupe des rhumatismes infectieux, mais nous reconnaissons que les preuves biologiques ne sont pas encore formelles dans ces deux déterminations et nous ne saurions trop engager les observateurs qui bénéficieraient de conditions favorables à compléter ces lacunes.

Nos quelques observations ne nous permettent pas de conclure en ce qui concerne le rôle probable de l'infection streptococcique dans la genèse d'ulcères digestifs, d'appendicites, etc. . .

Le rôle du bacille *perfringens* que nous avons parfois mis en évidence dans les suppurations dentaires chez des sujets présentant des poussées rhumatismales, ne pourra être définitivement retenu qu'après identification complète avec le bacille d'Achalme isolé des lésions articulaires.

Enfin, il est à souhaiter que ce même travail d'identification des germes dentaires et métastatiques puisse être prochainement réalisé en ce qui concerne les infections à fuso-spirochètes pour lesquels tant d'auteurs ont invoqué des spécificités arbitraires et des paternités provisoires.

En ce qui concerne la facilité de diffusion des diverses formes d'infections dentaires, nos observations, d'accord avec la simple logique, démontrent que les plus redoutables sont les suppurations prolongées favorisant l'adaptation et la résorption humorale des streptocoques. Cette constatation primordiale démontre l'importance de la pyorrhée dans sa définition étymologique même; elle nous dispense d'entrer dans la confusion des théories pathogéniques et de chercher à établir la démarcation entre les pyorrhées orthodoxes d'origine générale et les prétendues fausses pyorrhées d'origine locale gingivale. Pour le malade, la suppuration est bien la menace essentielle et la recherche d'un trouble du métabolisme ne doit pas la faire négliger au médecin.

En revanche, les granulomes particulièrement visés par les auteurs américains, nous paraissent moins redoutables. Il n'est pas douteux que l'éradication systématique préconisée par ces auteurs est apparue ainsi nocive que ridicule.

Les conséquences thérapeutiques de ces faits sont évidentes: la prophylaxie et la vaccinothérapie dans l'infection dentaire doivent être pratiquées au moyen des seuls germes en cause et non avec une macédoine de bactéries buccales dont la plupart sont sans intérêt et dont les bacilles fusiformes sont absents. Afin d'obtenir de maximum d'activité antigénique des streptocoques, il est indiqué de les sélectionner d'après leur pouvoir toxigène et d'employer des cultures en bouillon riches en exotoxines. Chez les sujets sensibilisés ou malingres, il sera prudent de pratiquer cette vaccination au moyen de simples pansements locaux et il pourra être utile de leur associer, particulièrement dans la pyorrhée, l'action d'arsénicaux actifs sur les spirochètes de la bouche.

Cette vaccinothérapie, outre son effet local indéniable, manifesté par l'assèchement des lésions et même par la consolidation des dents atteintes, aura un effet de prophylaxie essentielle vis-à-vis de toutes les manifestations métastatiques dues à cet essaimage infectieux redoutable que nous nous sommes efforcés de préciser.

Les Acryliques

Questions et réponses

Traduction du Dr Alcide Thibaudeau

Question. Comment remplacer une première et seconde prémolaires inférieures par de l'acrylique? La canine est hypoplasique et la molaire porte une obturation m.o. en amalgame.

Réponse. Pour la culée (1) postérieure, on prépare une cavité pour incrustation mésio-occlusale treillissée à couler en or. Cette incrustation squellettique sera finalement remplie d'acrylique. La réponse suivante nous dira comment construire cette incrustation spéciale. Comme la canine constituera la culée antérieure, il faudra la préparer pour recevoir une coiffe métallique avec épaulement. Sur le modèle tiré de la canine préparée on adapte un patron en cire de jauge 28, à couler comme toutes les autres pièces en or dur. Les traverses d'une culée à l'autre seront aussi treillisées. Toutes les parties pourront être cirées de façon à les couler toutes d'un seul coup ou pour les couler séparément en vue de les abouter ensuite avec de la soudure. Le tout devrait être essayé en place pour s'assurer de l'alignement. On procède ensuite au cirage qu'on transforme ensuite en acrylique. La coiffe métallique de la canine devra être munie de nombreuses ciselures ou d'un cadre rétentif destiné à recevoir et à retenir l'acrylique.

Question. Comment obtenir pour une culée de pont sur une molaire une incrustation à recouvrir de plastique?

Réponse. Si l'on veut une incrustation qui semblera être toute en acrylique et avoir suffisamment de résistance, il faudra d'abord couler un squelette



en or. Méthode indirecte d'abord. Par impression on se prépare une bonne reproduction de la dent et de sa cavité. La cavité bien huilée est d'abord bien tapissée sur toutes ses parois d'une mince couche de cire de bonne qualité. Ensuite dans une ancienne seringue toute de métal on enferme une certaine quantité de la même cire. Il faudrait que la seringue soit munie d'une grosse aiguille ayant une lumière d'au

(1) (Note du traducteur). Puisqu'il s'agit de pont, pourquoi ne pas employer les mots français qui correspondent à l'idée qu'on veut exprimer? Culée: massif destiné à supporter l'une ou l'autre extrémité d'un pont.

Pile: Bâti destiné à supporter les autres parties du pont qui ne sont pas les extrémités.

moins 20 B&S. On comprendra tout de suite qu'on s'en servira pour faire des fils de cire dont on garnira l'intérieur de l'incrustation dans toutes les directions de façon à former un treillis suffisant pour retenir l'acrylique tout en lui donnant de la force.

On peut acheter les fils tout faits, si on le désire. En tout cas on les soude ensemble à l'aide d'un explorateur chauffé.

Il ne faut pas oublier que des petites traverses doivent être disposées parallèlement à l'angle cavo-périphérique mais assez éloignés pour ne pas apparaître à travers l'acrylique. Alors trois fils No 14 sont disposés mésio-distalement comme tiges à couler de façon à les étendre après le coulage jusqu'à l'autre culée. Elles serviront à porter les dents intermédiaires. Cette incrustation grillagée est reportée sur le modèle pour essayage, cirée en même temps que le reste du pont pour transformation en acrylique.

Question. Quelle quantité de liquide faut-il ajouter à la poudre. Mesure-t-on en volume ou en poids?

Réponse. La proportion en poids ou en volume est inexacte.

Pour qu'il y ait polymérisation (2) il faut mettre la poudre en contact du liquide qui l'accompagne. Le tout se transforme alors en une masse solide polymérique et chimiquement cohérente.

Sans tenir compte de la masse de poudre, il faut y ajouter juste assez de liquide pour atteindre la saturation capillaire. C'est à dire qu'il faut que cette poudre prenne l'aspect du sable mouillé, et alors il faut ajouter une goutte de liquide pour que la poudre atteigne l'état semi-liquide. A ce moment le caractère granuleux de la surface semble disparaître comme si le liquide monomère semblait venir à la surface. Quelque soit la masse de poudre, on reconnaîtra facilement les points de repère.

N.B. Toute question sur les acryliques doit être adressée au

Dr Maurice N. Stern

114-06 Queens Blvd.,

Forest Hills, New York, U.S.A.

De l'influence de l'alimentation sur la carie dentaire

Par le Pr. G. BELTRAMI, de Marseille

Le problème de la carie dentaire n'est ni bactériologique, ni chimique. C'est un problème de mécanique fonctionnelle. L'exercice de la fonction maintient l'intégrité de l'organe. Telle est l'opinion exprimée par le Prof. Beltrami, de Marseille, et développée par le Dr Pathault.

Or, qu'est-ce que la dent? La dent est un organe destiné à la mastication. C'est parce que nous n'exerçons plus suffisamment cette fonction que la dent a tendance à dégénérer. Cette tendance se transmet rapidement par hérédité et les conséquences de cet état de choses vont s'aggravant avec les générations.

La dent est un bourgeon mou et malléable. L'auteur la compare à un polypier. L'armature collagène molle de la dent constitue la partie vivante, nutritive. Elle peut être comparée aux charpentes métalliques ou aux barres de fer introduites dans le ciment armé. Les sels de chaux s'y déposent passivement. Or, la carie dentaire

(2) Note du traducteur. Monomère veut dire une partie. Polymère, plusieurs parties. Polymérisation: transformation du corps qui devient polymère. On dit d'un corps qu'il est polymère quand sa formule présente un multiple du corps primitif. v.g. $C_{20}H_{32}$ le colophène est un polymère de l'essence de térébenthine comme C_6H_6 le benzène est un polymère de C_2H_2 l'acétylène.

est une maladie du collagène. On retrouve des lésions histologiques bien avant que toute carie se manifeste à l'extérieur. C'est parce que la vitalité de cette substance fibrillaire diminue et finit par disparaître que les particules résistantes se désagrègent. Quant aux microbes, ils n'envahissent la dent que comme les vers rongent un cadavre. Ils achèvent une besogne de destruction.

Le bourgeon dentaire mou doit être modelé par les forces buccales: lèvres, joues, langue, etc., ainsi que le montrent des schémas fort démonstratifs de l'auteur.

La prophylaxie de la carie dentaire sera donc la suivante: le jeune enfant doit, suivant l'expression populaire, "se faire les dents". La succion active est une gymnastique qui contribue à mouler le germe dentaire. Donc, encourageons l'enfant à sucer, d'où utilisation de sucettes interdites par la loi.

De l'avis de l'auteur, la pédiatrie moderne a prolongé à l'excès la période des bouillies. Le jeune enfant doit être un rongeur, tout comme le jeune chien qui cherche d'instinct à mordiller tout ce qu'il trouve.

Chez l'enfant plus âgé, il faut, loin de réprimer cet instinct, continuer à le respecter avec, bien entendu, les précautions de propreté élémentaire. Que le jeune adolescent morde à pleines dents dans les fruits crus, les pommes, les poires; mieux, qu'il casse noix et noisettes avec ses dents. Qu'il se serve de sa dentition comme d'un outil, d'une cisaille, donnés gratuitement par la nature; casser les fils, couper les ficelles, déboucher les bouteilles, etc. . .

En résumé pour mouler et fortifier le système dentaire, il faut non seulement mâcher, mais mordiller, mordre, broyer avec les dents.

L'adulte, pour entretenir sa bonne dentition, doit agir de même. Les peuples qui ignorent la carie dentaire sont ceux qui se servent de leurs dents pour manger des aliments durs, résistants, qui sont crudivores, qui se servent de leurs dents comme instruments pour couper, casser les tiges, ramollir le cuir. Ainsi, même dans les banquets, agissaient nos ancêtres.

La révolution alimentaire actuelle et nos habitudes dites de bienséance ne se prêtent plus à ces exercices.

Sous le terme heureux de "révolution alimentaire", l'auteur entend les changements apportés, en particulier, pour l'industrialisation actuelle des substances destinées à l'alimentation. Nous voulons du pain frais, des viandes tendres, notre diététique prescrit pâtes, purées, fruits cuits, etc. . .

Nous ne pouvons nous étendre longuement sur toutes les conséquences de cette révolution alimentaire dont nous sommes les victimes et que l'auteur développe longuement.

Retenons simplement que les qualités physiques de l'alimentation moderne sont le contraire de ce qu'il faudrait pour assurer l'activité de l'appareil dentaire et, par conséquent, éviter la carie et la pyorrhée alvéolo-dentaire qui peuvent se résumer ainsi: atrophie de l'organe par diminution de la fonction à laquelle il est destiné.

Ce qu'il y a de plus grave, c'est que, dans ce domaine, l'hérédité commence à se faire sentir. On assiste actuellement à une régression du maxillaire humain "inoûte de rapidité" au dire de l'auteur particulièrement bien placé pour observer ces faits. Les accidents d'inclusion dentaire, les accidents de la dent de sagesse, autrefois rares, deviennent de plus en plus fréquents parce que le massif facial et le maxillaire inférieur sont de moins en moins développés. Il faut, en effet, savoir que le substratum osseux de l'appareil dentaire est une formation très spéciale, intimement liée au développement de celui-ci.

Le prof. Bolk, d'Amsterdam, entrevoit une évolution de l'homme civilisé vers une nouvelle formule dentaire. Les dents ne seraient plus qu'au nombre de 24 au lieu de 32 et le Prof. Beltrami nous présente le schéma d'un crâne futur bâti sur ces données.

Espérons que ces vues pessimistes ne se réaliseront pas.

Le Dr. Jules Thébaud prête serment comme avocat du barreau de Port-au-Prince

On se rappelle que, récemment, nous informions que le Dr. Jules Thébaud, directeur général du Service National d'Hygiène, avait subi aux Cayes, à l'Ecole libre de Droit de cette ville, les examens nécessaires pour l'obtention de sa licence en Droit. Lundi matin, le Dr. Thébaud a prêté serment, au Tribunal Civil, comme avocat du barreau de Port-au-Prince. C'est Mr. Bordes, doyen, qui présidait l'audience spéciale au cours de laquelle fut reçu le serment du Dr. Thébaud en présence de Me. Grévy Jean, commissaire du Gouvernement et Me. Victor Cauvin, représentant l'Ordre des Avocats. Nous renouvelons encore nos meilleurs compliments au Dr. Thébaud.

Le rédacteur et tous ses confrères de la Province de Québec se réjouissent chaque fois qu'il arrive quelque chose d'heureux au docteur Jules Thébaud, doyen de la Faculté Dentaire de Port-au-Prince.

Le petit article d'un journal local que nous reproduisons ci-dessus parle par lui-même.

Nos félicitations donc, et nos meilleurs vœux.

Dr. A. Thibaudeau

Cours de perfectionnement en dentisterie des enfants pour dentistes pratiquants

*Donnés à Montréal et à Toronto, dans la semaine du 28 février au
4 mars 1944.*

Ces cours dureront deux ou trois jours et auront lieu dans les facultés des trois Universités de Montréal, de Toronto, et de McGill. Ils comprendront l'enseignement des méthodes les plus nouvelles et les plus acceptées.

Un éminent spécialiste des Etats-Unis et certains membres du personnel enseignant de chaque Faculté donneront les leçons.

Présentement, les professionnels de la dentisterie sont saisis par la certitude d'un nouveau problème. C'est que chacun d'eux devra très prochainement réorganiser ses heures de pratique de façon à procurer des traitements à un nombre considérablement augmenté de patients enfants, et se préparer à ce renversement de ses coutumes. C'est exactement pour l'aider en cette affaire qu'on a institué ce cours.

Ces leçons sont organisées par les Facultés et les bureaux provinciaux en coopération avec la Canadian Dental Hygiène Council et le Dental Public Health Committee dans l'Ontario et la Commission d'hygiène buccale dans le Québec.

Pour détails supplémentaires écrivez directement à la Faculté de dentisterie de votre province.

Le cours est limité et les inscriptions seront considérées par ordre de réception.

Félicitations

Les docteurs Joseph Nolin de Montréal, Arthur Langlois et Stanislas Gaudreau de Québec viennent d'être nommés professeurs émérites; le premier de la faculté de chirurgie dentaire de l'université de Montréal, les deux autres de la faculté de médecine de l'université Laval.

Ces dentistes sont reconnus parmi les plus méritants de la profession dentaire; obligés par les circonstances d'abandonner leur chaire, ils continueront comme par le passé à aider les jeunes de leurs conseils.

La Société Dentaire de Montréal est heureuse de les féliciter et de leur souhaiter longue vie.



Courtesy of "The Beaver".

LOWER FORT GARRY, NEAR WINNIPEG, MANITOBA

Dog train in front of the factor's house, ready to start for Norway House about forty years ago. In the distance is the wooden store, built about 1874, but long since demolished. This trip to Norway House, a distance of 350 miles north of Winnipeg, would require eight days.



GERALD D. STIBBS, B.Sc., D.M.D.
Vancouver, British Columbia
President B. C. Dental Association
Past President Vancouver Dental Society and
Vancouver Ferrier Study Club
Graduate of North Pacific College of Oregon, 1931
Member of Omicron Kappa Upsilon,
National Dental Honorary Fraternity

The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 10

TORONTO, FEBRUARY, 1944

NO. 2

Thirty Practical Surgical Tips

By DR. GEORGE A. MORGAN, Toronto, Ontario

THIS subject embodies the adherence of seven fundamental rules to keep you out of trouble. You must take time to:

1. Observe your patient's general condition.
2. Observe your surgical field.
3. Always x-ray your operative field.
4. Correlate your clinical observations, your x-ray findings and your patient history.
5. Premedicate in all multiple extractions and all difficult cases.
6. Confine initial surgery to half of either the maxilla or the mandible. Make flaps for all difficult cases; suture where necessary.
7. Always prescribe post-operative medication—see your patient on the second post-operative day.

1. PATIENT OBSERVATION

One can hardly expect the general practitioner, or even the specialist, to attempt a general examination of the patient. Considerable information of the utmost importance, can however, be easily and quickly obtained by intelligent questioning and keen observation. Visual recognition of such conditions as diabetes, hyperthyroidism, the oral appearance of the various anaemias, children's diseases and various dermatological conditions, the appearance of the gingivae in what is

termed the pyorrhea of pregnancy, the differential diagnosis between an occupational blue line and one caused by overdoses of syphilitic treatment, are all problems which the general practitioner can recognize only by intelligent reading of the dental literature coupled with practical experience and an intelligent pre-operative history.

2. OBSERVE YOUR SURGICAL FIELD

Probably the most important pre-operative history with which the general practitioner has to deal concerns the treatment of acute local conditions. Whether to extract the offending tooth or teeth in the presence of acute alveolar infection is a problem which periodically confronts every general practitioner. With regard to these cases we believe that it is usually safe to operate if the case is seen within twenty-four hours after the onset of pain; if longer time has elapsed, and swelling is present, benefit is seldom obtained and the risk may be great.

In practically all of these problem cases, the dental x-ray is invaluable. It will generally aid in the important decision as to whether you are dealing with a toothache or a bone ache. Most causes of osteomyelitis referred to me by dentists are the result of operation during acute periods where the infection is spread widely into the surround-

*Paper presented at the Fall Meeting of the Hamilton Dental Academy, 1943.

ing tissues. This condition may be aborted by means of moist heat applied locally, the forcing of fluids, the control of elimination, and the use of suitable sedatives for pain—hypnotics for sleep and the sulpha drugs for blood stream infection control . . . of these latter drugs, the newest, sulphamerazine will be found in most cases of great help. As soon as the acute condition has been localized, drainage may be established by lancing; later, extraction may be performed with very little danger and with prompt repair. Regarding acute eruption of third molars in which the infection has involved the surrounding bone structure, the application of heat is indicated and the pocket should be ventilated and flushed out with a mild antiseptic, until the acute inflammatory condition has subsided, and the pain ceased.

In most cases where heat is indicated in the third molar region, the most satisfactory method of application is by a suspended enema bag, the tip of the tube being placed in the area—the head being tilted over a basin and the warm water being allowed to play on the indicated part. Incidentally this is an ideal way of securing throat irrigations.

TIPS RE PEOPLE AND THEIR TEETH

Beware of square faced people—They most frequently have end-to-end bites and therefore dense bone; hence difficult extractions. This is particularly true of pyorrhetically involved teeth.

Bicuspid and Molars—In long ovoid faced people these teeth generally follow the facial contour; their roots will be long and slender and therefore easily fractured. The buccal root of the maxillary first bicuspid is the most commonly found retained root and is generally found in this type of face.

Small crowns—generally have large root formations.

Rotated teeth—generally have heavy bone over one or more roots. Extensive

surgical procedures in the face of acute pyorrhetic involvement, without competent medical consultation, should be considered unwise and likely to produce serious post-operative sequelae.

The work of Crile on shock has been of special interest to the dentist, who should not overlook the fact that the results produced by his surgical procedures are at times more severe and more dreaded by the patient, than the results from certain major operations,—sooner have a child. It is quite true that a given amount of operating does not affect all patients alike, even though their general condition appears to be the same, and therefore determination of the risk in every doubtful case is necessary. Initial surgical procedures should be confined to one-quarter of the mouth. The anaesthetized field is therefore limited, thus minimizing shock. For example, in the upper right quadrant, there may be two bicuspid, that could be removed much more easily than the lower right first molar or an impacted third molar. By performing the least difficult operation first the confidence of the patient is gained and the infection tolerance increased. A good rule to follow is to limit extractions to one side of the median line to allow the patient one half of the mouth in comfort; extractions on the other side may be done when healing from the first has taken place. More extensive operations may be done if the patient is hospitalized. It is not the condition of the patient on the second day but rather on the third day after the operation that determines the time for the second extraction. If there is no marked reaction the third day, the rest of the affected teeth can be removed at the convenience of the patient and the operator, but if there is a reaction on the third, manifested by rise in temperature, loss of sleep and so forth, the second extraction should not be attempted for at least seven days, by which time the formation of antibodies resulting from the inflam-

mation caused by the first extraction should have afforded relief.

3. PRE-OPERATIVE DENTAL RAY

It is neither fair to yourself nor to the patient to attempt any surgical procedure in the mouth, no matter how simple it may seem, without supporting x-ray evidence. In cases of deciduous teeth, the x-ray will tell you the location of the crown of the permanent teeth, and its relationship to the deciduous root. Please don't get the idea that the removal of the deciduous dentition is unimportant or easy; in many instances, many malformations are often the result of lack of care in the removal of the deciduous teeth. The dental x-ray along with the clinical appearance and history form the pre-operative diagnosis for the all important surgical procedure to follow. If in doubt re anatomical findings take an x-ray of the same area on the opposite side.

4. USE OF LOCAL ANAESTHESIA WHENEVER POSSIBLE

A local or general anaesthetic may be selected for the extraction of teeth. Some dentists prefer a certain anaesthetic, either because of the technique employed for a particular piece of work or because of long acquaintance with that anaesthetic. Equally good results are obtained with different anaesthetics in the hands of different operators. It would seem that the type of anaesthetic used is dictated purely by choice if the ultimate result is the same, however, because of the need of additional surgical assistance, the rapidity of operation, the lack of haemorrhage control and the added patient risk, I am suggesting, that better results, smoother ridges and in general, less post-operative discomfort will be evidenced if we stick to local anaesthesia for everything except those cases, which we may term "straight extractions."

ANAESTHESIA

Injections can be made with least disturbance when patients are in a



Photo by Ashley & Crippen.

Dr. George A. Morgan

horizontal position. Although injections for most dental patients are made with the patient sitting upright, or nearly so, in a dental chair, the chair should be adjusted so that the patient assumes a horizontal position, in all instances in which there is a history of previous unfavourable reactions. Persons who are known to present a poor surgical risk should also be placed in a horizontal position. Solutions should be at body temperature and should not be injected too rapidly.

No doubt, in some cases unsatisfactory anaesthesia is due to failure to deposit the solution at the proper site, but in most cases it is due to failure of the anaesthetic agent to produce adequate anaesthesia, particularly when used for blocking a nerve of considerable size.

There has been a wide-spread conception that a concentration of procaine hydrochloride greater than 2 per cent could not be used safely, and

for this reason, concentration higher than this was never used. In the amounts used for difficult dental operations a 3 per cent or even a 4 per cent solution will produce more profound anaesthesia. Profound anaesthesia is dependent generally on the concentration and not on the amount of the solution, and the concentration necessary is in direct proportion to the size of the nerve to be anaesthetized.

Anaesthesia also is influenced by the sensitivity of the nerve endings; therefore, a more concentrated solution is indicated in extraction of teeth which have become hypersensitive to percussion, and probably even more for preparing cavities in teeth that are hypersensitive—3 per cent or 4 per cent solution.

Tolerance to adrenalin reaction will generally depend upon the obesity of the patient. For example, one would expect a very obese patient would react more unfavourably towards adrenalin than a thin patient. The maximum dose of novocaine with adrenalin that may be subcutaneously injected in adults who have been given a barbiturate, for example, nembutal one and one-half grains, pre-operatively, for a 25cc of a 2% solution. For a poor risk the table changes to 50cc of a 1% solution and 15cc of a 2% solution.

Whenever possible infiltration rather than nerve block is the method of choice, since by infiltration more profound anaesthesia is obtained with the same anaesthetic solution and a drier field of operation is provided. Blocking of the second division of the trigeminal or infra-orbital nerve rarely is indicated for extraction of erupted maxillary teeth. For unerupted canines and for tumours that extend back toward the anterior wall of the maxillary sinus, it is generally necessary to block one or the other of these nerves.

For extraction of mandibular teeth, it is necessary to block the inferior dental nerve since the thickness of the cortical bone of the mandible is too great to allow adequate infiltration of

the solution with the possible exception of the region of the incisor teeth.

Many men have asked us what type of injection we make and whose anaesthetic we use. Well to be frank about it—if the injection is properly done, the lack of anaesthesia is in most instances due to mistaken surgical judgment.

For mandibular third molars we use Cooke-Waites, Novocaine, Pontocaine and Cobefrin—for all mandibular and lingual injections and Cooke-Waites No. 4 which contains 1/25,000 parts of adrenalin for all long buccal injections and other infiltrations. The first gives us rapid, prolonged anaesthesia, the second, anaesthesia with good haemorrhage control of the operative field.

5. PRE- AND POST-OPERATIVE MEDICATION

The routine use of premedication in the extraction of teeth probably is not necessary; however, we have found it to be a most desirable adjunct and it is given routinely in our office for all cases. Regardless of the skill of the operator, the patient's impression depends on the ability of the dental surgeon to avoid creating nervous tension. Elimination of fear and apprehension by premedication should therefore be a source of satisfaction to both the patient and surgeon. Much of the discomfort experienced during the extraction of teeth is due to the severity of the pain. It is better to use a small dose and repeat it every half hour than to give too large a dose. One-half grain of codeine or more, may be used, which is equivalent to one-eighth grain of morphine. The combination of five grains aspirin and one-half grain of codeine in capsules or tablets to be taken orally has been found to be much more effective than either sedative alone, and usually will give good results when either one alone will fail.

Of the hypnotics, nembutal, one of the barbiturates, has been most satisfactory, pre-operatively, the drug should only be given in your office.

Post-operatively it should be taken when the patient is ready for bed. It has a prolonged effect in three grain doses— $\frac{1}{2}$ grain dosage is used for children. We just couldn't operate successfully without nembital.

The local application of medicaments often gives relief. Badly traumatized areas and extensive wounds should be washed with alkaline solutions.

Post-operative haemorrhage is no doubt a more disturbing factor to the patient and often to the dentist, than any of the unpleasant conditions following dental surgery. Ordinary pressure to the socket following extraction will usually be found sufficient, if the coagulation and bleeding time are normal. A roll of sterile gauze which fills to excess the opening formed by the extracted tooth is moistened and placed over the bleeding socket. Pressure is brought to bear by the opposing teeth, and the gauze is held firmly in position. After being thus held for fifteen to twenty minutes, the bleeding will usually have stopped. The procedure may be repeated with the pack saturated with coagulents or vasoconstrictors if desired. Moistening the pack prevents absorption of blood and the clot which forms in the socket is not disturbed when the pack is removed. Adrenalin chloride is a most effective vasoconstrictor. The persistent swelling following extraction that becomes hard and extends below the border of the jaw is spoken of as cellulitis. There is usually a slight elevation of temperature and the patient is more or less toxic due to lack of drainage. Treatment in these cases consists of roentgen rays of the area to determine if there is any destruction of bone; the patient should be hospitalized if possible and special attention given to elimination and the forcing of fluids. Constant hot compresses and mouth washes are important to speed up localization. Once the condition has localized, good drainage through the operative wound may be sufficient. If not, an opening should then be made from without,

keeping it well ventilated by means of wicks and tubes. Swelling and trismus existing for a long time tend to produce an unclean mouth. The use of soft food and no personal care on the part of the patient results in acute gingivitis or stomatitis. Warm alkaline mouth washes should be used frequently and the mouth should be swabbed with a luke-warm solution of potassium permanganate, one in ten thousand daily. Should the condition progress to osteomyelitis, the establishment of good drainage is paramount. It may be noted that the teeth involved become very loose. Great caution should be used in extraction, as when repair occurs the teeth usually tighten up well and retain their vitality. Sequestra form and should be carefully removed after they have loosened.

For the ordinary case of dry socket a pack of eugenol topped by a dressing of $\frac{1}{4}$ " gauze, dipped in ozonal has been found to be our most satisfactory form of pain control, this dressing is changed every day for three days, every other day for three times, then ozonal heated to a fluid state is placed in the socket and changed once a week for three weeks.

When a root has been fractured and is still firm at some distance below the crest of the socket, the immediate re-application of the forceps or unconsidered use of elevators is contraindicated, since such procedures are conducive to unnecessary trauma. In most instances in which fractures occur, the flap method for removal of the root is probably the one of choice, since it provides a good view of the field of operation and also reduces trauma to a minimum. In any case where bone removal is indicated, remove the bone first then the tooth.

Curettement of sockets should be limited to the enucleation of cysts and organized granulomas which must be considered to be potential epithelial cysts. Curettement of sockets of teeth

that recently were in an acute condition is contraindicated.

Routine use of dressings or drugs for all sockets is not indicated for after all the best dressing is the normal blood clot. When a gauze dressing either medicated or unmedicated is placed in a socket, it should be allowed to remain in place for several days.

Of the drugs which have been used in wounds following extraction, sulphathiazol in the form of sulphapack (Abbotts) or dentroz (made locally) have proven to be of the greatest value.

The extraction of teeth solely because of pulp stones or hypercementosis in the hope of aiding systemic conditions is to be discouraged. It is agreed almost universally that teeth should not be extracted when acute Vincent's infection is present.

It is advisable to discuss the prognosis with the patient so that he may be prepared for complications, but he should not be unnecessarily alarmed, and precautions should be dictated by common sense. The patient with hyperthyroidism presents a dangerous anaesthetic and operative risk. Dental surgery for diabetic patients constitutes a definite risk and requires careful pre-operative evaluations and management. Dental surgery for diabetics should not be performed in the presence of acute respiratory infections. Routine post-operative x-rays in all difficult cases will do many things.

1. Convince the patient that the difficult procedure has been successfully completed—the patient will therefore, be much more tolerant to delayed healing, swelling and post-operative discomfort.

2. It will make you a better and more thorough operator.

3. It will give you a better record of the case and help justify your fee.

Take care of your patients post-operatively and your practice will take care of itself.

TIPS FOR THE PATIENT

1. *X-ray all cases.*
 - (a) Stand for x-rays.
 - (b) Arrow punch for films.
 - (c) Nickel clips and holders.
2. *Gauze for mouth*
 - (a) Large sponge.
 - (b) Small sponge.
 - (c) Cotton roll for single extraction.
3. Ice Cone to test teeth.
4. Thermometer.
5. Kleenex.
6. *Drugs.*
 - (a) Ammonia Capsules. B. & W.
 - (b) Nembutal Grains 1½.
 - (c) Aspirin—Codeine Grains 5 & 1.
 - (d) Phenerol
Zephiran
Sulphapack (Abbotts)
Dentrox
7. Ice Bag to traumatized area for 1-1½ hours.

TIPS FOR THE TEETH

1. *Laterals*—Luxate before you attempt to rotate.
Cuspids — Rotate toward median line—because of the distal lingual inclination of the root tip.
All Posterior Teeth—Dice them—luxate.
2. Make flaps for all devitalized teeth.
Make flaps for all malformed roots.
Make flaps for all impacted thirds.

To see clearly your operative field is the first step toward a successful post-operative result.

3. Sharp instruments — long bevel on chisels.
Scissors and knife—long handles.

TIPS FOR THE DENTIST

- Hands—Rubber Gloves.
Eyes—Window panes.
Feet—Rubber shoes.
Mouth and Nose—Wear a mask.
419 Medical Arts Building.

The Sulphonamides

By K. PIERRE DOZOIS, Ph.D., S.Dc., Los Angeles, California

Reported and Commented upon by John W. Clay, D.D.S., Calgary, Alberta

RECENTLY Dr. K. Pierre Dozois, of Los Angeles, representing the Lederle Laboratories, Inc., spoke to the Edmonton and Calgary Dental Societies, his subject being the "Sulphonamides". An excellent motion picture was presented, showing the chemical composition of the various members of the sulphonamide group, their experimental and clinical development, with particular emphasis on the advantages and disadvantages of sulphadiazine. There followed an extensive question period, during which Dr. Dozois cleared up a lot of mis-information and discussed the special question of the drug's application to dentistry. The following points made by Dr. Dozois were noted by the writer:

1. All members of the sulphonamide family are bacteriostatic in action and not bactericidal, that is, they prevent the growth and development of the invading micro-organisms but do not necessarily kill them. Theoretically they are effective because they tie up the free available para-amino-benzoic acid of the body fluids, which is essential for bacterial growth.

2. Sulphanilamide has particular value against pneumococcus organisms; sulphapyridine, against streptococcus; sulphathiazole against staphylococcus and gonococcus. Sulphadiazine will actually do anything that any other drug will do. If we had only one drug today, and that drug were sulphadiazine, we would have an effective sulphonamide.

3. Unfortunately, none of the sulphonamides have any great value in virus infections. It therefore follows, in Dr. Dozois' opinion, that this group of drugs has little value in the first stages of influenza, common cold, or

other virus infections. However, they are of value in the control of secondary infections following a primary virus infection. It would be dangerous to suggest that any member of the sulphonamide family should be used in the prophylactic treatment of the common cold.

4. Although the sulphonamides are very valuable, they are also very dangerous drugs. The objectionable and sometimes harmful reactions to the drugs may occur with even small doses, and no method has been devised by which one can forecast a drug sensitivity or susceptibility in the patient.

5. These toxic reactions may be manifested by skin rash, nausea and vomiting, kidney irritation or damage, or blood discrasia. Nausea and vomiting or rash do not necessarily constitute serious problems, but a blood discrasia or a kidney irritation is a danger signal. Where either of these last two reactions occurs, it means that if the drugs are to be used, they must be used with a great deal of caution.

6. Of all the drugs, sulphadiazine is the outstanding drug of choice, because of its specificity, its degree of absorption, its slow excretion, and because it circulates in all body fluids. With proper control, sulphadiazine is the least toxic of the sulphonamides that have been developed thus far.

7. Preliminary medication before dental surgery is not advised as routine medication. (This seems reasonable to the writer in view of the fact that in a great majority of such cases, a general infection does not follow the operation.)

8. In instances of surgery where there is a known general infection, or where there is an infection following

surgery, sulphadiazine may be very wisely used. It is very difficult to prescribe a satisfactory dosage. However, in cases of infection, there is an aim to build up a reasonably high sulphadiazine drug level as soon as possible.

(In spite of Dr. Dozois' emphasis on possible reactions, the writer feels justified in continuing oral administration of sulphonamides on occasion, for selected patients with no history of blood discrasias or kidney lesions. In doubtful cases a check-up with the physician is always desirable.

Premedication with sulphadiazine is desirable in certain cases where surgery of infected tissues is required at a time when there are also evidences of systemic infection. This is particularly true of lower third molar areas with swelling in the floor of the mouth, indicating that infection has passed beyond the fascias.

In cases where systemic effects, with some moderate rise in temperature, follows dental surgery, the use of these drugs is indicated. One seven and a half grain tablet administered orally, at four hour intervals, to a total of forty-five grains, is a helpful and very moderate dose. Increased water intake is important for elimination of the drug. In more serious cases the advantages of consultation with the patient's physician are evident.)

9. Tablets of the sulphonamides should not be used in sockets or cavities in the bone. All sulphonamide tablets contain a filler material, which may remain in the cavity as an inert mass. Where local application is decided on, the pure drug in powdered form should be used. (The best method of application is to blow the drug into the cavity with a No. 36 De Vilbiss atomizer.)

10. Whenever an absorbed sulphonamide is used topically, there is always

a possibility of absorption into the blood stream. The degree of absorption depends to some extent upon the type of topical application, as well as the type of medication used. The oral intake of the sulphonamide results in absorption followed by the circulation of the drug in the blood stream. Only in rare conditions, is there any danger following the absorption of the drug when it is applied topically.

11. From the audience, the point was brought out that the pH of this group of drugs is in the neighbourhood of 5.5. Dr. Dozois was asked if the local use of a drug which very definitely lowered the alkalinity of the tissues did not retard healing. The questioner felt that better healing would take place without it, with the possible exception of cases of large cavities with infected tissue remaining and with inadequate drainage. Dr. Dozois stated that with few exceptions, the sulphonamides did not interfere with the normal healing processes. Where the powdered form of the drug is used, it is slowly absorbed. As absorption takes place, healing results. There is sufficient buffer reaction in the blood to take care of pH as mentioned above. Because the sulphonamides do not interfere with the healing processes, these drugs are being widely used in abdominal and in bone surgery. The speaker stated that he was not sufficiently well-versed on dental processes to know whether or not implanted sulphadiazine would interfere with healing following extraction.

(Following a considerable series of cases with controls the writer is of the opinion that healing in ordinary post extraction areas is definitely not aided by topical application of sulphonamides. In cases where suppuration ensued there seemed to be a benefit from this form of treatment.)

Newer Aspects of Skeletal Fixation for the Fractured Mandible

(A REVIEW)

by W. L. ELLIOT, Captain, Canadian Dental Corps, R.C.A.F., Mountain View, Ont.

IT IS a well known fact that fractures of the mandible are becoming more frequent as mechanized warfare increases¹. Although the underlying treatment of these injuries has not changed for centuries, the method of treatment has passed through a period of development to give a more scientific, accurate and pleasing end result.

While numerous simple types of fractures may be treated by the intra-oral methods, others require external fixation². Intermaxillary wiring, where suitable opposing teeth are available, has proven to be ideal for most cases of the fractured mandible. Splints of vulcanite, acrylic, cast and swaged metal have also found a place in the treatment of reduction and fixation.

Current war literature for lay and professional reading has widely publicized the different skeletal fixation methods being used in this war. In spite of this, the adoption of these newer techniques by the dental profession has been slow. This is probably due to, first, the lack of information regarding their application; second, wartime restrictions on dental supplies; and third the difficulty involved in obtaining general anaesthetics and required hospitalization.

In treating fractures of the mandible by skeletal fixation, one must obtain the same preliminary information as that required for fixation by the wiring technique. Hence it is essential to carefully determine the number of fractures, location and type of fractures, extent of injury to the soft tissue, deformity produced and the general

health of the patient. In every case, roentgenograms are invaluable to locate the fracture line, injury to the roots of the teeth, involvement of the teeth in the fracture line and the position of the fragments.

The principle of the Roger Anderson orthopaedic apparatus for fractures of the mandible, has been the basis from which all the more recent types of skeletal appliances have been developed³. With this apparatus the fixation of the segments is obtained by the insertion of converging pins into the mandible. The appliance consists of two universal "Frac-sure" units each composed of two pins of medium Kirschner wire .060 inch, two small pin clamps and a connecting fixation rod weighing one and two thirds ounces. With a hand drill, the pins are placed at approximately an angle of 70 degrees. They are inserted into the mandible about 5 mm. above the lower border, no incision being necessary. The pin clamps are applied and connected by a rod. After inserting the second unit in the adjoining fragment, the fracture is reduced by manipulation. The two segments are drawn together and held secure by the two universal fixation clamps and bar.

As an aid primarily in the fixation of an edentulous posterior fragment, Waknitz⁴ constructed a splint very similar to the Roger Anderson technique. With an electric drill, two converging stainless steel wires are inserted into each fragment. An adjustable bar connects the two pins to form a two pin unit. Waknitz and Converse have used their appliance, with a great

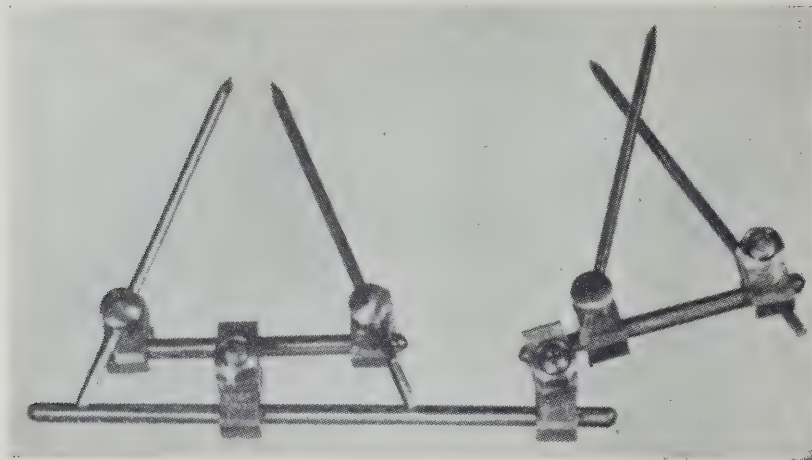


Fig. 1. Roger Anderson external skeletal splint using converging pins in Converse Waknitz technique. Medium Kirschner wire is employed with two pin clamps and a connecting rod. (Courtesy Dr. Carl W. Waldron, *Journal of Oral Surgery*.)



Photo courtesy M. A. Rushton, *American Jour. Ortho. and Oral Surgery*.

Fig. 2. External skeletal splint used by Clouston-Walker, employing pins and the universal movement clamp. The apparatus consists mainly of T-pieces, fitted with two pin clamps, tie bars and large clamps.

deal of success, for fractures at the angle especially in an edentulous mouth.

Clouston and Walker were the first to utilize skeletal fixation on a large scale in the present war⁵. After considerable success in a series of 21 cases, Walker and Rushton⁶ reported that external pin fixation was particularly adaptable for (1) multiple fractures of the edentulous or nearly edentulous mandible (2) fractures in which there is an uncontrollable edentulous fragment (3) patients in whom it is necessary to control edentulous fragments for bone grafting. The apparatus depends largely upon the mechanical principle of the universal movement clamp for its great adaptability. The clamp itself consists of a threaded bolt and eye at one end and a hexagonal nut at the other. Two flat rings or flanges are fitted on the bolt, each with a groove to allow for a firm grip on the pin. The appliance consists of T-pieces upon which are fitted two pin clamps, tie bars and large clamps, (Fig. 2). After the insertion of the pins into the mandible, in convergent pairs, the T-pieces are firmly attached to them by the pin clamps.

Captain W. L. Elliot

Finally, a tie bar is threaded through the large clamps. The number of sets of pins and interconnecting bars may vary according to the severity of the fracture. According to the authors, two operators are required for the insertion of the pins. To obtain maximum asepsis, the pins are inserted first, then any required work within the mouth is done.

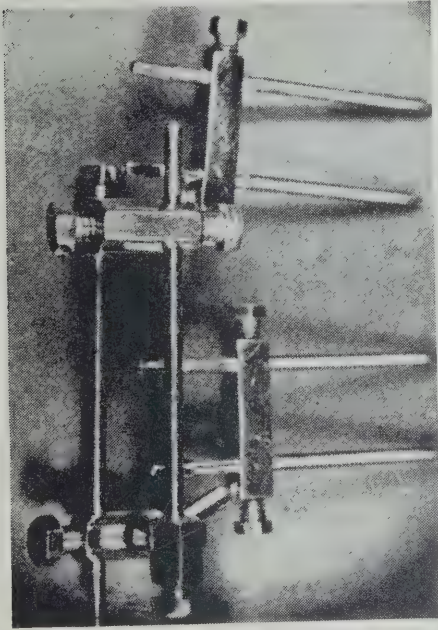


Fig. 3. Haynes-Griffin skeletal splint with rectangular stainless steel frame and parallel screws. (Courtesy Dr. D. B. Parker, in 'Synopsis of Traumatic Injuries of the Face and Jaws'.)



Following the pattern of Roger Anderson, Mowlem⁷ constructed an external appliance using crossed Kirschner wires in the form of an 'X'. In his apparatus, each pair of pins is fixed to a single plate and the two plates are joined by a bar sliding in a tube, so that complete universality of movement is obtained but no rigidity is lost. Mowlem further reports that he has used it effectively in 14 cases but the appliance as yet is not ideal.

The Haynes-Griffin⁸ splint for external fixation embodies two sets of stainless steel pins, attached to a rectangular metal frame (Fig. 3). The frame itself is constructed of stainless steel or chromium-plated steel with a weight of one and a half ounces. The insertion of the screws is identical to that of the pins. However, only one or two turns are required after the screw has penetrated the cortical bone of the mandible. This not only obtains a firm hold but leaves sufficient length

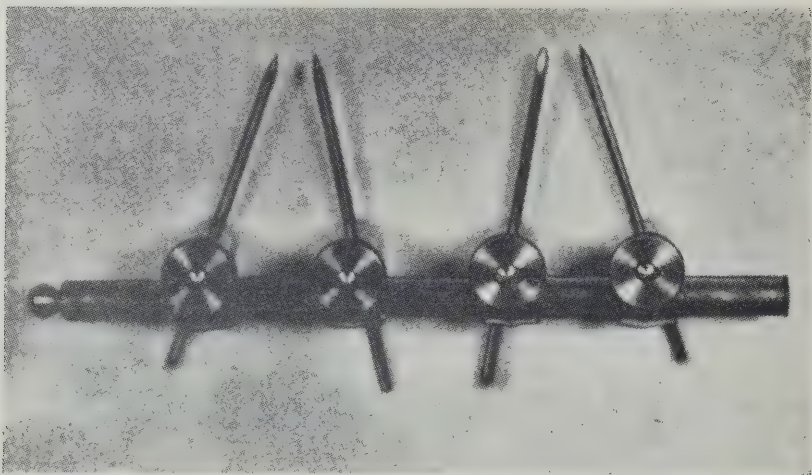


Fig. 4. Waldron's original external splint with Starrett universal joints attached to a surface gauge. (Courtesy Dr. D. B. Parker, in 'Synopsis of Traumatic Injuries of the Face and Jaws'.)

of screw to allow for any soft tissue swelling. Griffin states that the mesial screw should be placed first to locate the correct distance from the fracture line. Then the frame or cross block is adjusted over the first screw and the position of the second is noted. This screw is then inserted in the same manner as the first. The poster-

ior screws and attachment bars are placed on the other fragment, cross block applied and tightened. The apparatus allows one to test the amount of union that has taken place by releasing the cross bars. If union is not strong, one can replace the bars. Unlike the majority of other men, who have used skeletal fixation extensive-

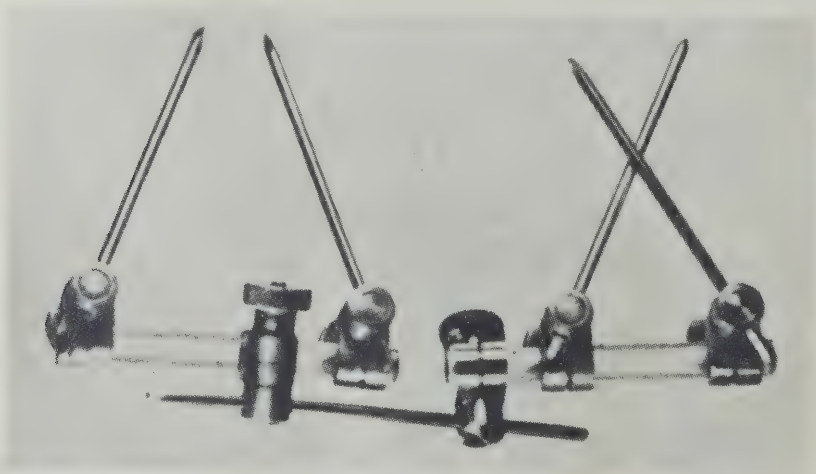


Fig. 5. Apparatus now used by Waldron with a short lucite rod connecting two sets of pins in a manner similar to the Roger Anderson splint. (Courtesy Dr. Carl W. Waldron, *Journal of Oral Surgery*.)

ly, Griffin advises the use of his appliance when teeth are present in the mandible and where standard methods of wiring would suffice.

Starting from a toolmaker's surface gauge, Waldron⁹ designed a skeletal apparatus using four vitallium pins each attached by a Starrett universal joint to a fixation rod (Fig. 4). The appliance can be adjusted to use screws instead of pins. Waldron reports, in a series of three cases, that if twin pins are used it is practically impossible to insert four pins on a straight alignment rod. Hence, he inserts one pin in each fragment before reduction, then reduces the fracture. The second pin in each fragment is then inserted, all firmly held to the fixation rod by Starrett joints. Upon a suggestion by Ivy, Waldron used two small lucite rods each with two pins, connected by a light stainless steel rod. This provided more adaptation as the lucite rods can be heated and bent, giving universal movement (Fig. 5).

A more simplified skeletal splint was designed by Parker¹⁰ using two

adjustable screws, that lock the appliance in any possible position. Parker used the upper unit of the Starrett joint and attached two screws in the larger bone segment and one in the smaller (Fig. 6). However, he maintains, "It is not advisable to use appliances for external fixation if there is sufficient anchorage within the mouth to secure adequate fixation in proper alignment"¹⁰.

Originally designed as an intra-oral implantation appliance for the control of a posterior edentulous fragment, Berry¹¹ utilized vitallium screws and an alignment rod for external fixation. The assemblage consists of soft 14 gauge round stainless steel wire, vitallium screw, and a sleeve containing a small hole to fit over the screw. The alignment rod is contoured to lie adjacent to the mandible, then attached to the screws with tie wires. By bending this rod at each treatment, the misplaced fragment can be manoeuvred into its correct position.

Probably one of the simplest of all

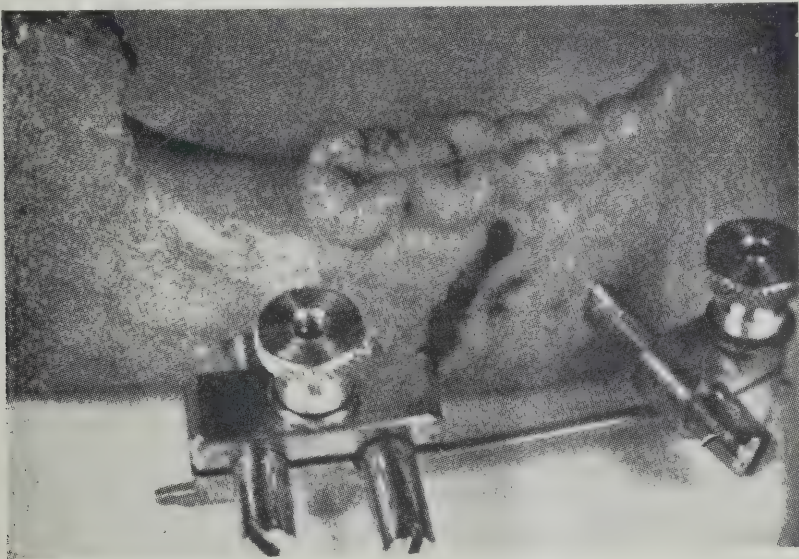


Fig. 6. Parker's external appliance using screws attached to a stainless steel bar by means of a Starrett joint. (Courtesy Dr. D. B. Parker in 'Synopsis of Traumatic Injuries of the Face and Jaws'.)

external appliances was constructed by Bourgoyne¹² who simply inserted two 2 inch orthopaedic screws into the mandible and retained them by gauze impregnated with plaster. He states that only one screw on each side of the fracture line is necessary, thus reducing chances of infection by 50 per cent.

In 1940, Bigelow¹³ introduced an external appliance involving vitallium screws with slotted heads. An alignment bar about 1/10 inch square fits into a groove in the screw and is held in place by a thumb nut. Bigelow and Mowlem have reported cases where, in the fixation of a fracture of long standing, a plaster head cap was applied and wired to the external appliance for more stability. In conjunction with Major Hampson of the United States Army Dental Corps, Bigelow used a modified football helmet to replace the plaster head cap. This was a great improvement.

To elevate directly misplaced edentulous posterior fragments of the mandible, Pohl¹⁴ constructed an external hook-screw appliance which he has used with good results. The apparatus consists of a hook, a screw tapered at one end, with a square head on the other, and a rod connecting the two. The hook is inserted as far from the fracture line as necessary and in a region of strong bone. As soon as the bone is felt, traction is exerted and the screw manipulated through the connecting rod to the bone. Pohl joins two or more hook-screws with a stainless steel bar by means of welding. The skin is protected by a wet cloth and cold spray.

According to Mowlem¹⁵, several cases have been recorded where the leverage exerted by the weight of the appliance, plus the weight of the horizontal ramus, together with the pull of the inframandibular muscles have dislodged the pins in the posterior fragment. Hence lightness in weight in the external appliance is important.

SUMMARY

External skeletal fixation promises to be of great assistance in the treatment of compound war wounds with multiple fractures. A few of the advantages of this method compared to the wiring technique are worthy of note. The impairment of the muscles of mastication is not necessary as function is immediately restored. Daily mouth hygiene can be continued. The diet is no longer a problem as the patient can be allowed semi-solid food while the mandible is healing. This technique is particularly adaptable for fractures in the edentulous posterior region or for those cases which can be handled only with difficulty¹⁶.

The disadvantages of external fixation seem insignificant and yet are important. The skeletal splint cannot be used where deciduous teeth are present in the mandible. In spite of a sterile technique, local necrosis may occur about a pin leaving a noticeable scar.

In the final analysis, the simplest method that can be easily and quickly applied, should be considered in the reduction and fixation of the mandible¹⁷. Thus Parker, Berry and others, advise intermaxillary ligation where anchorage within the mouth is available. In special edentulous cases or in difficult comminuted fractures, the employment of a skeletal splint might be the deciding factor for success or failure. Unquestionably at this date, the greater percentage of fractures are being immobilized by the wiring technique, as this method is within the scope of the average practitioner and considerably less expensive. Whether the skeletal splint will remain now that it has reached such a degree of efficiency is problematical. Possibly this present struggle will be the proving ground as it has been for so many radical techniques now in evidence.

Bibliography

1. Hemberger, A. J.: Fractures of the Mandible, *Annals of Dent.*, 21:51, Sept. 1942.

Newer Aspects of Skeletal Fixation

2. Bisnoff, H. L.: External Appliances as Adjuncts in Treating Fractures of the Jaws and Facial Bones, *Dental Outlook*, 29:77, Feb. 1942.
3. Anderson, Roger and Finlayson, B. L., *Sequelae of Transfixation of Bone Surgery*: 46, Jan. 1943.
4. Converse, J. M. and Waknitz, F. S.: External Skeletal Fixation in Fractures of the Mandibular Angle, *J. of Bone and Joint Surgery*, 2 4: 159, Jan. 1942.
5. Clouston, T. H. and Walker, F. A.: The Clouston-Walker Splint for Pin Fixation. *Brit. Dental J.* 24:147, March 1943.
6. Rushton, M. A. and Walker, F. A.: Mandibular Fractures Treated by the Pin Fixation. *Brit. Dental J.*, 64:4, Jan. 1943.
7. Mowlem, R.: A Review of Fixation Methods from the Standpoint of the Plastic Surgeon. *Brit. Dental J.*, 71:323, Nov. 1941.
8. Griffin, J. R.: Treating Fractures of the Mandible by Skeletal Fixation. *J. of Ortho. and Oral Surg.*, 27:365, July 1941.
9. Waldron, C. W.: loc. cite by Parker, D. B.: *Synopsis of Traumatic Injuries of the Face and Jaws*. St. Louis. The C. V. Mosby Company. 1942, p. 180.
10. Parker, D. B.: *Synopsis of Traumatic Injuries of the Face and Jaws*. St. Louis. The C. V. Mosby Company, 1942, p. 181.
11. Berry, H. C.: The Implantation Method for Setting Fractured Mandibles. *A. J. of Ortho. and Oral Surg.*, 28: 292-306, June 1942.
12. Bourgoyne, J. R.: Extra-Oral Splinting of Fractures of the Mandible, *J. of A. D.A.*, 30: 1390-1391, Sept. 1943.
13. Bigelow, H. M.: Vitallium Bone Screws and Appliances for Treatment of Fractures of the Mandible; *J. of Oral Surg.*, 2:131-137, April 1943.
14. Waldron, C. W., Kazanjian, V. H., and Parker, D. B.: Skeletal Fixation in the Treatment of Fractures of the Mandible. *J. of Oral Surg.* 1:73, Jan. 1943
15. Mowlem, R.: Experiences with Various Methods of Skeletal Fixation in Fractures of the Jaws. *Proc. of the Royal Soc. of Med.*, 35:426, April 1942.
16. Gillies, H. D.: The Replacement and Control of Maxillo-Facial Fractures, *Brit. Dental J.*, 71:358, Dec. 1941.
17. *Lectures on Military Dentistry*. Chicago: A.D.A. 1941.

Important Notice Re Mail Order Dentures

Will any Canadian dentist who has definite information concerning the importation of these dentures during the past year please communicate with the undersigned at once, stating the firm's name making them, how shipped into Canada, the cost to the victim and any other useful information. Personal names will be treated confidentially.

Only actual cases of which the dentist has personal knowledge are useful.

Sydney W. Bradley.

*Chairman, Committee on Dental Legislation C.D.A.,
142 Laurier Ave. W., Ottawa, Ontario.*

Any psychologist will tell you that the pressure of suggestion by the mob is far greater than that of individual suggestions.—Morris Fishbein, M.D.

The Forum

• PRACTICE OF DENTISTRY

Excerpt from Editorial in N.Y. Jour. of D. Dec. 1943

WHEN the war is over from one-fourth to one-half the dentists in the United States may never have been in private practice.

It takes a decided sense of enterprise in addition to capital outlay to enter private practice. These men, having practised on a fixed salary as officers in the armed forces may well be ready to accept service in the "health army" proposed by Surgeon General Parran of the United States Public Health Service before the American Hospital Association last September or in some other health "scheme."

Many industrial corporations, employee welfare organizations, labour unions, fraternal and other benevolent groups are showing increased interest in the provision of health care. A number of these agencies are actually engaging in dental practice by the simple expedient of hiring dentists to work at the chair. These are factors which confront dentistry regardless of the Wagner Bill. The health services are at the spearhead of a trend which cannot be veered from its course by setting up general principles. The A.D.A. should lose no time in setting up specific standards and policies to be observed in the practice of dentistry outside the private office. Furthermore, there should be a definition as to what constitutes the practice of dentistry and who is eligible to engage in dental practice.

The concern of dentistry is not to quibble with those who insist that dental care for the entire population is a legitimate function of government. That is a question which the people through their duly elected legislators will decide. Dentistry should and must concern itself with the intra-and

extraprofessional forces which would provide dental care on a mass basis at the expense of dentists.

• THE FUTURE OF DENTAL PRACTICE

by J. LL. SAUNDERS, B.D.S.,
Director, Division of Dental Hygiene,
Department of Health

*(Excerpt from New Zealand Dental Journal,
July, 1942.)*

A RE-ORIENTATION of dental practice is overdue. It is a question whether the dental curriculum has kept pace with modern developments in medical and dental science. It should be a matter for discussion whether there is not too much time devoted to the purely technical procedures of prosthetic dentistry, and too little to such subjects as preventive dentistry, nutrition in its relation to dental disease, public health aspects of dentistry, etc. At this stage in the development of dental science it seems open to question that a man pursuing a professional course should have to spend a considerable part of his time learning the trade of a dental mechanic. Broad principles, yes, but only so that he can direct the work of dental technicians, and obtain the results that he wants.

This brings us to a discussion of the part that dental technicians should play in this effort to increase the efficiency and raise the status of the dental profession. The first thing to do is to allot this essential service a definite place in the scheme of things. Technicians might be trained in a special school, or courses arranged at existing Technical Schools. Whatever the method, their training should be standardized, and should lead to a definite status. In fact they should have a legal status, and be registered and graded in accordance with the scope of their training.

• KERATINIZATION

by E. WILFRED FISH, M.D., D.D.Sc., D.Sc.

Condensed from Br. D. Jour. Oct. 1, 1943

THERE is no question that the treatment of the gum margins should start in infancy. They must never be allowed to become ulcerated. Once a surface breach has occurred, the complete train of degenerative and inflammatory processes sets in and there is no way of stopping the disease short of more radical interference.

A child should be taught from its earliest years to rub its gum margins, and the most convenient thing to use for that purpose is a soft tooth brush. The tooth brush must be soft; otherwise the child will not use it, as it naturally does not want to hurt itself. The child should be given a soft toothbrush and very carefully taught to rub its gum margins all round, the mouth being divided into sections for the purpose, and the child should be taught to count the rubs it gives, and to give twelve rubs to each section. The rubbing can be done backwards and forwards, up and down or sideways; there is no rule about the direction in which friction should be applied to harden the gum margins. In childhood the gum margin is attached right up to the contact point between the teeth, but in late adolescence there is some detachment, because the teeth become longer and when two of them move against each other the epithelium is torn away from the point immediately below the contact point and a space occurs. The friction should be carried through between the teeth then, and some of the bristles of the toothbrush should go between the teeth in the case of the incisors, the canines, and the premolars, but in the region between the first and second molars the distance through from the buccal to the lingual side is so long that the bristles of the brush cannot be expected to get through, so as to keep the gum margin hard right through,

and some form of interdental friction must be applied with a stick or darning wool or something of that sort. Floss silk is bad for this purpose, because it cuts the gum instead of rubbing it.

In an established case of pyorrhea, if the detached gum margins are rubbed with a brush the papillae are torn and the ulceration is increased at the bottom of the pocket, and the gum margins are rubbed against the tartar which has collected on the teeth. Therefore the best treatment is to cut away the detached gum margin, cover up the wound and let it heal, and then by gradual friction get a well keratinized cuticle on the surface of the newly grown epithelium.

The question might arise whether a case is cured once the keratinization is perfect, the answer is that infection even in the most active cases of pyorrhea is never below the surface, it is never in the bone and the periodontal tissues are never infected; therefore if a firm keratinized attachment of the teeth is obtained all the way round one could be quite sure that the deeper tissues are healthy.

Professor Bradlaw has said that the necessary instruments for diagnosis are a probe, a mirror, and some horse sense. I would say that the necessary instruments for treatment are a toothbrush, a wood point and some elbow grease.

• HEALTH EDUCATION

by RUSSELL W. BUNTING, D.D.S.,
Ann Arbor, Mich.

Excerpt from Jour. of A.D.A., Nov. 1943.

WE HEAR a great deal today about dental health education. This, indeed, is one of the chief activities of dental health service. The question may well be asked, however, *How much do we really know about the prevention of dental disease that can be taught to the masses other than the value of a clean mouth and the im-*

portance of frequent dental examination and the filling of cavities while they are still small? Much that is said about the benefits of an adequate diet applies only to the general health of the child. Unless the sugar intake is definitely restricted, dietary adequacy has little effect on dental health. Even with the closest cooperation of the parent, the dentist and the pediatrician in the selection and feeding of optimal diets, new cavities appear in the teeth of children with extraordinary regularity. If the sugar intake is properly limited in the diet, there will be little or no dental decay, irrespective of the adequacy or inadequacy of its nutritional values. This is the only dietary modification which we are at the present time justified in offering to the public as a preventive of dental disease.

• REQUIREMENTS OF CONTENTED LIVING

1. Health enough to make work a pleasure.
2. Wealth enough to support your needs.
3. Strength to battle with difficulties and overcome them.
4. Patience enough to toil until some good is accomplished.
5. Grace enough to confess your sins and forsake them.
6. Charity enough to see some good in your neighbour.
7. Love enough to move you to be useful to others.
8. Faith enough to make real the things of God.
9. Hope enough to remove anxious fears for the future.

"When you row the other fellow across the stream you get there yourself."—Author unknown.

Dominion Dental Council Examinations

There will be a Dominion Dental Council Examination held at the University of Alberta, and Dalhousie University May 8 to 13. For this examination class D fees should be in the Secretary's office not later than March 15, and class A fees not later than April 10. There will be an examination also from August 1 to 5. Fees for Class D, for this examination should be in not later than June 15 and class A not later than July 3.

A. J. Brett, Sec.-Treas.,
Regina, Saskatchewan.

A TRUE STORY

A WESTERN Canadian dentist is busy operating when his nurse announces the arrival of a young lady with a tooth-ache which she desires to have relieved.

Dentist: "I am extremely busy today and cannot undertake to see another patient. Please have her consult some other dentist."

The nurse returns to the operating room in a few minutes.

Nurse: "This young woman says she was referred to you by several of your very best patients and does hope that

you will be able to see her if only for a few minutes to relieve this tooth-ache."

Dentist (weakening): "Well, I'll see her just before my next appointment." The tooth-ache is relieved.

Dentist to patient: "Which of my patients referred you to me Miss X?"

Patient: "Doctor, I never heard of you before. I have been to six dentists this morning and not one of them would see me so I figured I would have to make up some better story than I told the others."



PRINCE EDWARD ISLAND

*Editor* — M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S

SASKATCHEWAN

*D. T. Wye, Charlottetown*

QUEBEC

*E. M. Laurin, Montreal*

ONTARIO

*T. R. Marshall, Toronto**F. C. Harwood, Moose Jaw*

NOVA SCOTIA

*S. G. Ritchie, Halifax*

ALBERTA

*John Clay, Calgary*

NEW BRUNSWICK

*W. C. Carruthers, Saint John*

MANITOBA

*J. F. Morrison, Winnipeg*

BRITISH COLUMBIA

*H. M. Cline, Vancouver*

“What Price Glory?”

Some work has been done to determine the life span of the physician who has attained position and prestige as compared to that of those who appear to have lived under less strain. In the *Journal of the American Medical Association*, July 25, 1942, Dr. Rendick stated that the more prominent physicians, the ten whose death notices headed the weekly list in the *Journal*, died on an average of 4.7 years earlier than did those whose demise received only a bare mention, or the ten at the end of the list. An editorial in the same journal in the issue of June 13, 1942, stated that the average age of physicians in 1941 was 65.9 compared with 66.3 years for a total of 3450 deaths published in 1940, and that heart disease accounted for the greatest number of deaths.

Clarence Mills of the University of Cincinnati points out in *Science* magazine, October 23, 1942, that those physicians whose deaths received bare mention lived to the greatest age but were closely followed by those whose achievements gained wide attention, and that those achieving only mediocre success seemed to pay the highest price in terms of an earlier death

age. And he speculates as to whether the really great live longer and achieve more because of greater vitality and working capacity, or do they reach a higher plane of success as a result of their added years of effort?

Statistics may be considered infallible but their interpretations may not be and it is with these limitations that the question of "What Price Glory" among dentists is being considered in this article.

An analysis has been made of the In Memoriam notices contained in the Journal of the Canadian Dental Association since its inception in January, 1935, up until August, 1943, a period of nearly 9 years. In this period there appeared 227 death notices of Canadian dentists where the age was given. This group was divided into two parts, 74 in Group 1 and 153 in Group 2. In Group 1 were placed those who had been active in dental association affairs, churches, lodges, civic and welfare organizations, etc. In including a name in Group 1, it was not considered sufficient that a dentist be a member of a number of organizations. Only those were included who had obtained leadership and therefore had assumed added responsibility in these various organizations. In Group 2 were placed the balance, those who were not noted for their leadership activities outside of their practice although they may have been excellent dentists and may have worked harder at their daily task than those placed in Group 1.

It is interesting to note that the average age of the 227 men was 61.6 years, over 4 years less than the average of physicians in the U.S.A. in 1941. There were 74 placed in Group 1 and the average age of this group was 65.5. There were 153 in Group 2 and the average age was 59.1, a difference of 6.4 years. When we increased the number in Group 1 to 102, the average age was 63.8 and the number in Group 2 was consequently lowered to 125 with an average age of 60.3, a difference in age of 3.5 years.

In analyzing these figures, one must remember that all those who died young due to accident or early ill health, were included in Group 2. Furthermore, some may have met an early death due to overwork both in the office and out of it and yet at the time of death may not have attained a position of prominence. However, there is nothing in these figures to indicate that the man who has taken a very active interest in dental organizations, church, lodge, civic, or national enterprises, has his life shortened by such activities, that the "Price of Glory" is a shortened life span. On the contrary it would seem that he who serves faithfully and well in many capacities, he who has earned the grateful thanks of his fellows for his untiring efforts lives longer than he who leads a more leisurely life in such respects. Is there something that stimulates one's organs to greater effort in these well-rounded lives or is it due to having received a greater gift of vitality to meet life's problems?

It is also interesting to note that where the cause of death was given that a very large majority died of some form of heart disease, the same as in the medical statistics. Pneumonia came second as a cause of death.

That something could be done to increase the life span of the dentist

goes without saying. Much can be said for the well poised life. To economize vital energy is an art learned by only the few. Dentists as a group, do not live as long as they should. Here is an interesting problem for research, worthy of the greatest endeavour of our most brilliant intellects.

M. H. G.

SCHOOLMASTER ABROAD

Question:

What do you consider to be the most satisfactory treatment for Vincent's Infection?

Answer:

By Dr. M. Monte Bettman, Portland, Oregon, U.S.A., Past President of the American Academy of Periodontology.

In the treatment for Vincent's Infection I believe that the most important part of the treatment is the thorough removal of all sources of irritation (deposits, overhanging fillings etc.). It seems that there are any number of drugs that have proven very satisfactory but I do not believe that any treatment will accomplish a complete cure unless a thorough prophylaxis, including the removal of all irritants has been done.

Answer:

By Dr. Charles H. M. Williams, Toronto, Ontario, Associate Professor of Periodontology, Faculty of Dentistry, University of Toronto.

Treatment of an acute ulcerative condition should be in two phases. The first and introductory phase is devoted to reducing the acute ulceration during a period of two to four days by the use of Churchill's iodine and silver nitrate, or chromic acid, (10%) and hydrogen peroxide or a medicated cement pack.

The second, and much more important phase of treatment should be instituted at the earliest possible time dependent only on the patient's ability to tolerate the operative procedure. This phase is devoted to raising the resistance of the gingival tissues to allow complete healing and to prevent the all-too-common recurrences of the infection.

The main features are:

Prescribe use of interdental cleansers and massage, brushing as soon as the patient can tolerate it.

Cement or wax packs to facilitate scaling and trimming.

Remove all local irritants by scaling, trimming, polishing, and occlusal adjustment.

Systemic treatment is sometimes necessary.

Answer:

By Dr. J. Stanley Bagnall, Halifax, Nova Scotia, Professor of Dentistry, Faculty of Dalhousie Dental School.

It is my practice to vary the treatment of Vincent's depending on the type. (a) In the acute fulminating type where there is considerable pain, excessive thick ropy saliva, marked odour, and generally from 1-3 degrees of fever. Hydrogen peroxide diluted with equal parts of warm water used as a mouth wash every two hours, if possible for 24-48 hours. Some of these cases occur in patients receiving anti-syphilitic treatment with bismuth or mercury salts. This treatment should be temporarily suspended because of their possible irritation to the mucosa. (b) In the sub-acute, or chronic types, the organisms concerned may be resistant to this treatment. I think that it is necessary in these cases to remove the foci of infection which may be located around rough edges of fillings, soft tissue flap over the third molar, areas of irritation adjoining calculus, etc. At the same time using local treatment on the infected areas. These cases do not always respond to the same drug. In some cases the silver nitrate-iodine method, metaphen, gentian violet, and in some cases 5% chromic acid, although I am not in favour of caustic drugs for treatment of the condition as a general rule. At present I am trying the preparations of the Lincoln Laboratories and results so far have been very good.

Question:

Is Vincent's Infection caused chiefly by the implantation of bacteria from outside the

mouth or due to systemic conditions of the host causing a changed condition in the bacteria already existent in the mouth?

Answer:

By Dr. Williams:

The resistance of the gingivae is of much greater importance than the infectivity of the organisms. Only when the gingival tissues have been established in a state of reduced resistance by irritants or systemic abnormality, can the infection become established and usually it appears to follow implantation of bacteria from outside the mouth.

Answer:

By Dr. Bagnall:

Is it possible to be definite in answering this question? The micro-organisms of many diseases, including Vincent's, are probably pretty generally present and it is only when the systemic resistance is lowered for some reason that they are able to overpower the body resistance and the particular disease condition is produced. We are not too sure today that the Vincent's organism is the actual causative organism. If it is, then it is interesting in this connection to remember that careful workers have found this organism present in something like 95% of all mouths. It also should not be overlooked that the causative organism is probably present in a more virulent strain during outbreaks. This type of infection was recently well illustrated in one of our cities in an outbreak of diphtheria where most of the patients were over 20 years of age which is not the usual picture.

Answer:

By Dr. Bettman:

It would appear from clinical observation that most cases of Vincent's Infection occur from outside the mouth, although as stated above, there must be the proper environment before the organism will produce the disease.

Question:

Do you consider it safe to extract a tooth with an acute abscess, which is very painful, in the presence of an acute Vincent's Infection?

Answer:

By Dr. Bagnall:

It seems reasonable to avoid extraction, if possible, during the acute stage. If the necessity for extraction is great enough to justify any risk which may be present we could at least use full strength hydrogen peroxide packs for five minutes or so before extraction.

Answer:

By Dr. Bettman:

I would never extract a tooth in the presence of an acute Vincent's Infection unless it were absolutely necessary, as I have seen several instances where extraction was done before the acute condition had subsided and the patient exhibited severe necrosis in the extraction area.

Answer:

By Dr. Williams:

It is sometimes necessary to extract before the infection has been thoroughly eliminated. The following routine has been successful. Twenty-four to forty-eight hours before extractions cleanse the area about teeth to be extracted by wiping with a cotton pellet soaked with hydrogen peroxide. Wash off area with cotton rolls cleanse and dry with cotton pellets. Apply Churchill's iodine and silver nitrate. Repeat above procedure immediately preceding extraction. Patient should use mouth wash of hydrogen peroxide one part in three parts warm water eight to ten times daily during interval.

Question:

Do you consider Vincent's Infection quite contagious, slightly contagious, or not contagious at all?

Answer:

By Dr. Bettman:

Vincent's Infection apparently is quite contagious as is shown by the fact that we find it prevalent among individuals who are thrown in more or less close contact, although, I am of the opinion that the organism, even though introduced into the oral cavity would not produce the disease unless the mouth first presents areas of irritation or low resistant areas.

Answer:

By Dr. Williams:

Slightly contagious. It will not affect healthy tissues but only those in a state of lowered resistance.

Answer:

By Dr. Bagnall:

Our thinking on this seems to me to be well expressed by the fact that some States place it on the notifiable list of diseases; others do not. We see isolated severe cases in institutions where there has been dish contamination before the condition was diagnosed but without other inmates contracting the disease. On the other hand an outbreak of a disease of this type has characterized every collection of troops in practically every war in recorded medical history. It would seem only good sense to take all the necessary precautions to protect others against infection.

Question:

Where silver nitrate and iodine are used in the treatment of Vincent's Infection, do you apply the nitrate or the iodine first?

Answer:

By Dr. Williams:

The Churchill's iodine should be applied first.

Answer:

By Dr. Bagnall:

The application of the iodine first would seem to be the more logical: (A) You get the benefit of the stimulation to the circulation from the iodine at the start of the treatment. (B) The iodine is the less caustic of the two drugs. I can see no advantage to be gained at this stage of the treatment by devitalizing tissue by a strong caustic action and so add the dangers of secondary infection to the problem.

Answer:

By Dr. Bettman:

Where the so-called Adams' treatment is used, I apply the Churchill's tincture of iodine first, followed immediately by silver nitrate.

Editor's Note:—The three experts chosen to answer this question all agree that iodine should be applied before the silver nitrate. For many years the editor has used the silver nitrate before applying the iodine as he desired the action of the nitrate rather than the iodine in the first instance. An excerpt from a fine article entitled "Ammoniacal Silver Nitrate for Gingivitis" by Lowell N. Peterson, D.D.S., San Francisco, Associate Professor of Periodontia, Department of Operative Dentistry, College of Physicians and Surgeons, San Francisco, follows.

In this article which appears in the Nov.-Dec. issue, 1943, of the Journal of the California State Dental Association, Dr. Peterson neutralizes the nitrate with eugenol. If silver nitrate is excellent in treating gingivitis, why should it not be used in treating Vincent's Infection?

"The use of ammoniacal silver nitrate as an adjunct in the treatment of gingivitis has proved to be helpful in over 175 clinical cases. In addition, other effects such as desensitization of dentine and cementum in cervical areas and a likely arrestment of incipient caries make this drug unique in dentistry. There is probably no other drug known that will accomplish as much when properly applied on dental tissues."

"Ammoniacal silver nitrate cauterizes the gum tissue and when confined to the gingival margin the healing is rapid and practically painless. Healthy gingival tissue is only slightly affected. Healing and improvement of the colour of gum tissue is usually noted in two to four days following application. Desensitization of root surfaces is immediate and there is very little discomfort when it is applied."

"Care and discretion should be exercised, however, when this drug is applied in the anterior regions of the mouth. Permanent discolouration of silicates and staining of margins of porcelain jackets and other restorations may result and these areas should be avoided or protected. Mineral oil is excellent for this latter purpose and should be applied after the area is thoroughly dried and immediately before, applying the silver nitrate solution."



DENTAL CORPS NEWS

Lt.-Colonel R. C. Wansbrough

The Department of National Defence has recently announced the promotion to the rank of Lt.-Colonel of Major R. C. Wansbrough, C.D.C.

Lt.-Col. R. C. Wansbrough was born in Dufferin County, Ontario. He had nearly three years' service in World War I, with combatant units in France and Belgium. He was graduated from the R.C.D.S., University of Toronto in 1923 and practised in Lindsay, Ontario, until the present war.

This officer has had considerable service with N.P.A.M. and shortly after the outbreak of war was appointed Officer Commanding 2nd 45th R.C.A. with rank of Major. He reverted to the rank of Captain on transfer to the C.D.C. but was again promoted to Major in February, 1942.

Lt.-Col. Wansbrough has been Camp Dental Officer at Petawawa Camp, Ont. since October, 1940, and is now Officer Commanding No. 28 Coy., C.D.C., stationed at that Camp.



Lieut.-Colonel Lloyd Davis

The Department of National Defence has announced the promotion to the rank of Lt.-Col. of Major Lloyd Davis. This officer was appointed to the C.D.C. in November, 1939 and served three years overseas with field companies and at Canadian Military Headquarters. In May, 1943 he was returned to Canada and appointed Officer Commanding, No. 45 Company, C.D.C., Pacific Command.

Lt.-Col. Davis received his early education in Winnipeg, Manitoba, and graduated in dentistry from the University of Toronto in 1929. He received the post-graduate degree of B.Sc. (Dent) in 1931. Before the war he practised in Toronto.

Lt.-Colonel H. R. Cleveland

The Department of National Defence recently announced the promotion to the rank of Lt.-Colonel of Major H. R. Cleveland of Montreal.

This officer was graduated in dentistry from McGill University in 1915. He served over four years with the C.A.D.C. in World War I and saw service in France and Germany as well as in Canada and Great Britain. He was appointed to the Canadian Dental Corps at the outbreak of the present war and served three years overseas. In September, 1941 he was promoted to be Major and in June last was appointed Officer Commanding No. 7 Coy. C.D.C., at Debert Military Camp, N.S.

He is a past President of the Montreal Dental Club and a former member of the Board of Governors of the College of Dental Surgeons, Province of Quebec. He was also the Captain of a Canadian Davis Cup team.

He is the son of Dr. E. T. Cleveland who has practised dentistry in Montreal for 54 years, and his own son, Lieut. Donald Cleveland, is serving overseas with a Canadian Armoured Division.

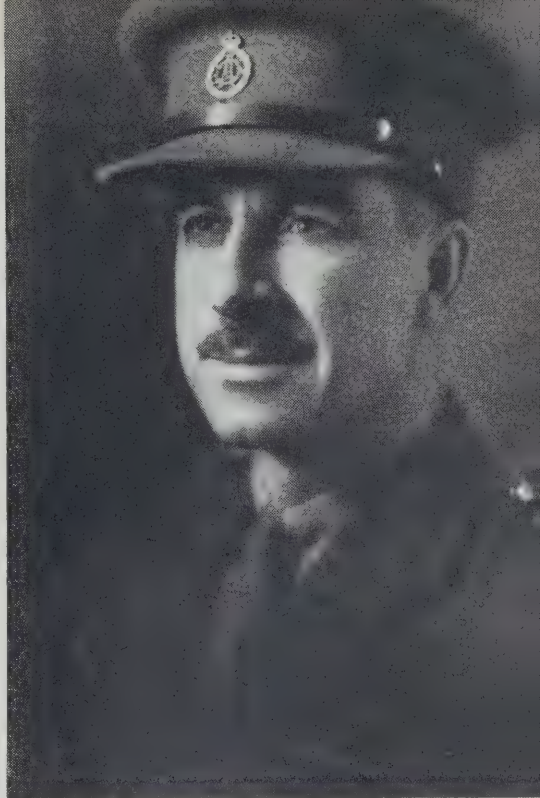


Photo by Black & Stoller

SUPPLEMENTARY LIST CANADIAN DENTAL CORPS OFFICERS AS OF DECEMBER 31, 1943 11th Statement

APPOINTMENTS

Rank, Name and Date	Civilian Address
Lieut. J. Gruman, 19-11-43	Outremont, Que.
Lieut. A. W. Bazerman, 19-11-43	Montreal, Que.
Lieut. P. C. R. Asselin, 19-11-43	Montreal, Que.
Lieut. I. Lubin, 19-11-43	Outremont, Que.
Lieut. J. Saindon, 19-11-43	Montreal, Que.
Lieut. C. B. Crutchfield, 19-11-43	Shawinigan Falls, Que.
Lieut. E. A. Mangeau, 19-11-43	Outremont, Que.
Lieut. S. Silver, 19-11-43	Montreal, Que.
Lt. (A/Capt.) A. W. Oliver, 15-11-43	Montreal, Que.
Lieut. J. C. Tanton, 23-12-43	Toronto, Ont.
Lieut. R. L. Martin, 23-12-43	Chapleau, Ont.
Lieut. M. Goldberg, 23-12-43	Toronto, Ont.
Lieut. D. Lipman, 23-12-43	Toronto, Ont.
Lieut. W. J. Hambley, 23-12-43	North Bay, Ont.
Lieut. H. S. Banfield, 23-12-43	Toronto, Ont.
Lieut. J. F. Loucks, 23-12-43	Toronto, Ont.
Lieut. C. T. Peterson, 23-12-43	Bruce Mines, Ont.
Lieut. J. T. Crouch, 23-12-43	Toronto, Ont.
Lt. (A/Capt.) H. A. Cummings, 9-12-43	Kirkland Lake, Ont.
Lieut. S. H. Seetner, 23-12-43	Winnipeg, Man.
Lieut. P. A. Ostapovitch, 19-11-43	Theodore, Sask.
Lieut. J. A. Gorcynski, 23-12-43	Hamton, Sask.

RETIREMENTS

Rank, Name and Date	Civilian Address
Lt.-Col. W. W. Wright, 27-11-43	Winnipeg, Man.
Capt. W. A. Nicholson, 30-11-43	Nanaimo, B.C.

To avoid criticism, do nothing, say nothing, be nothing.—Elbert Hubbard.

One of the ablest women in the U.S.A., now the wife of a university president, was brought up in poverty. She recalls an occasion when, as a girl, she complained of her hardships to her mother. "See here," said the mother, "I have given you life; that is about all I will ever be able to give you. Now you stop complaining and do something with it."—Fosdick.

NEWS FROM THE PROVINCES

MANITOBA:

Manitoba Dental Association

The annual election of Directors to the Board of the Manitoba Dental Association resulted in the re-election by acclamation of the members whose two year term had expired, namely, C. D. McLeod, A. E. Proctor and A. R. Hurst.

Dr. C. D. McLeod is President of the Association and Dr. A. R. Hurst is Vice-President for the current year.

Dr. M. H. Garvin was appointed Delegate from the Manitoba Association to the House of Delegates of the Canadian Dental Association. Dr. J. F. Morrison was appointed alternate delegate.

Winnipeg Dental Nurses' and Assistants' Association

This Association held its monthly meeting on January 10, at the St. Regis Hotel. One of the members Mrs. Evaline Early gave interesting papers on "We The Patients Speak" and "The Philosophy Of A Human Being".

Marilyn Roland

ONTARIO:

Faculty of Dentistry University of Toronto

Three new awards of students are being established by the Senate of the University of Toronto in the Faculty of Dentistry: the W. K. Kellogg Foundation Scholarships, the Harold Keith Box Medals, and the Pro Liberis Prize.

Eight scholarships to be known as the W. K. Kellogg Foundation Scholarships, the gift of the Foundation, are offered for session 1944-45 to Ontario students who obtain an average of at least 66% at the Grade XIII examinations in the subjects prescribed for admission to the Faculty of Dentistry. Each scholarship has a value of \$625. and will be payable in five instalments of \$125., one in each of the five academic years of the course leading to the degree of Doctor of Dental Surgery. One scholarship is offered in each of the eight electoral districts into which the Province of Ontario has been divided by

the Royal College of Dental Surgeons of Ontario.

Two medals, one of gold and one of silver, to be known as the Harold Keith Box Medals in Periodontology, are to be awarded each calendar year to the Fifth Year student who obtains the first and second highest standing in this subject. These awards are the gift of Dr. Hubert W. deRenzy, Calgary, a graduate of the Toronto Faculty of Dentistry, in appreciation of Dr. Box's research in Periodontology, and will be offered each year from an endowment provided by Dr. deRenzy.

A prize of the value of \$50. to be known as the Pro Liberis Prize is a gift of an anonymous dentist practising in Toronto, to promote interest in dental service for children. It will be awarded each session to the Third Year student who stands highest in the division of Operative Dentistry devoted to Dentistry for Children.

Toronto Study Club of Dental Technicians

Denco Ontario entertained members of the Club at dinner at the Royal York Hotel on Nov. 10. The guest speaker of the evening was Mr. Vernon of the Vernon Benschaw Corporation who presented an interesting discussion of acrylic resins, with the aid of lantern slides. Dr. Henry Thompson, President of Denco, was in good form with one of his after dinner speeches.

A. C. Whiteley

2T4 Class Toronto Take Notice Hey Fellows—

There will be a reunion of our class at the O.D.A. Convention May 29, 30, and 31, in Toronto this year. Decide now to attend and urge others to do likewise. The gang from the North, East, South, and West must be present. Round up the Westerners—"Clayton", "Footey", "Mac", "Conn", "Dut", and "Westie"; bring the Easterners "Simmy"; head the Northerners this way "Jeff". How about flying north Homer and Hart? You Detroiters! "Charles", "Jimmy", "Benny", "Shep", "Henry",—everybody make plans.

Hope to see you all.

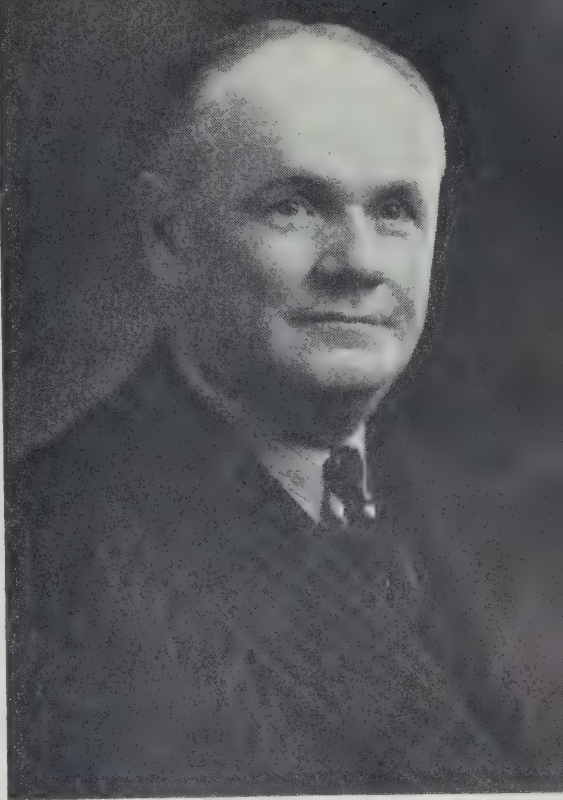
"Bill" Paul
Class President.

Ontario Dentists in Public Service

It is always difficult to select a few men for recognition without omitting many others equally worthy and deserving of mention for achievements in public service. In spite of this the writer felt that Ontario dentists ought to know something of the record of service rendered by a few of their colleagues in various centres of Ontario. Dr. Fred J. Conboy, perhaps the most widely known of this group, has been elected for his fourth term as Mayor of Ontario's Capital City. Dr. Conboy's record of service runs something like this—president of Ontario Dental Association 1924 and secretary-treasurer for 15 years, Director of Dental Services in Ontario 1924-1935, president of Canadian Dental Association, president Canadian Dental Research Foundation, Professor of Dental Prexis, Faculty of Dentistry, University of Toronto, a past president of the Community Welfare Council of Ontario. He served on the Board of Education of the City of Toronto for 5 years, being chairman in 1914. In 1935 he was elected to the City Council and since that time he has served continuously—two years alderman, four years controller, and in 1940 he was elected Mayor which office he still holds. Dr. Conboy has a reputation for promoting sound and aggressive civic legislation.

Dr. W. S. McKay of Galt is not so widely known to his colleagues as Dr. Conboy yet he has a record of which he must be justly proud. He is Mayor of Galt and is completing 24 years as member of Galt City Council, 7 years as Mayor. Prior to entering Council he was a member of the School Board for 8 years, serving 2 years as chairman. He is a past chairman of Galt Public Utilities Commission,—indeed public service seems to have been his hobby. He has kept up his vigor by curling during the last 40 odd years.

Dr. Harry Stewart of Kingston has just retired from civic office to enter the Ontario Legislative Assembly to which he was elected in August 1943. He graduated in 1914, served with the first field ambulance C.E.F. joining in 1916, later he was D.D.O. for M.D. No. 3. In 1923 he was elected to Kingston Board of Education, serving almost continuously until 1931. He was chairman in 1930. He was elected alderman during



MAYOR FRED J. CONBOY

the years of 1932-1936, and in 1938 he was elected mayor which high office he has held to the end of 1943. Space does not permit even listing the varied interests and affiliations of our enthusiastic colleague but we hope he will not entirely neglect his hobbies.

Dr. A. H. Reid of Arnprior is serving his seventh term as mayor, having served as reeve and councillor before becoming Arnprior's first citizen. In addition to being mayor he is Hydro Commissioner, president of local ration board, president of both the Curling Club and the Golf Club and very busy organizing a new 40 bed hospital. He graduated in 1929.

Dr. E. C. Young is serving his sixth year as Mayor of the residential town of Riverside, outside the city of Windsor. He graduated in 1918 and entered public service as member of the Separate School Board in 1933 continuing until 1938 when he was elected mayor, in which capacity he has served continuously since that time. Dr. Young carries on his dental practice in Windsor and is known to be a progressive educationist.

Up in Dryden, Dr. E. M. Dutton, a graduate of 1924 seems to be coming along too. This is his fourth term as mayor; he began his public life as councillor in 1938. As well as being mayor this year he is chairman of the Postwar Rehabilitation Committee and O.C. 209th R. Field Battery, Dryden. Dr. Dutton received his B.Sc. (Dent) in 1932.

Dr. F. Murray Denas, familiarly known to a host of friends as "Buck" is again Mayor of Oakville. He is best known as a golfer among dentists, indeed this is his eighth year as Captain of Oakville Golf Club. Dr. Deans has an enviable record of public service as well. This is his fourth year as mayor receiving three acclamations. He served in the Dental Corps in the First Great War, and later one year with the Department of Soldiers Civil Re-establishment. He was six years member of the Oakville Board of Parks Management, and president of the International Association of Lion's Clubs of Canada in 1938 and 1939 and at present councillor in the same organization. In view of his many activities one wonders how he gets time to play golf.

Then up in Beaverton it is reported that Dr. C. J. Devine has been elected Warden of Ontario County. If available information is correct this is the first time a dentist has been honoured as a county warden. Dr. Devine has had five years experience as Reeve of Beaverton which fits him admirably for this important post.

And so we conclude this review of highlights in achievement of a few of our public spirited colleagues. There are many others that could be included but this list should serve as an inspiration for others in our profession to serve in a public capacity.

•

Dental Nurses' Alumnae Association of Canada

The December Meeting of this Association was held at the Women's Union and took the form of a Christmas party. The president Miss Marjorie Jackson presided at the meeting. During the evening a shower was held for the Babies of Britain and sixty gifts were received. Miss Elizabeth Wilson sang accompanied by Miss Jeanne Alison. The singing of Christ-

mas carols was enjoyed by all, after which refreshments were served.

The January Meeting was held in the Faculty of Dentistry Building with the nurses in training as the guests of the evening. The president Miss Marjorie Jackson presided and Dr. R. G. Ellis was the guest speaker. Dr. Ellis presented a very interesting address on Operative Dentistry including Drug Formulæ and a new technique for copper plating compound inlay impressions. Miss Lola Gerow moved a vote of thanks to Dr. Ellis.

Miss Anna Lindsay reported that initialed leather writing cases had been sent to the graduates in the armed forces.

The Annual Bridge of the Alumnae will be held in February.

Ida E. Davis

QUEBEC:

Montreal Dental Club

The annual meeting of the Montreal Dental Club took place at the Mount Stephen Club on December 20. About seventy of its members and guests were present. A very fine dinner was served by the Club after which the President, Dr. Flynn Flanagan opened the meeting.

The Treasurer, Dr. B. Bell read the financial statement which, in view of these troubled times, was very good indeed. Dr. Neilson Blacklock was asked to present a toast to the Club members who are overseas on active service. He said in short, that we must remember them for the sacrifices they are making in leaving their civil occupations to join the Armed Forces, but on their home-coming, they should be given every consideration by the fellow members of their profession. He went on to say that there were twenty-seven members of our Club serving in the Army Dental Corps which he considered a good percentage especially when the Montreal Dental Club membership consists of less than one hundred active members.

The following members are serving in Italy: Major E. Bourke, Capt. Oliver, Capt. Gilbord, Capt. Johnson, Capt. Chemard, Capt. Cleveland, Capt. Kerry. Four members were elected to Honorary Membership, namely, Dr. Fred Baxter, proposed by Dr. Jack Dohan; Dr. A.

D. Angus, proposed by Dean A. L. Walsh and two other members; Dr. R. E. Elliott, proposed by Dr. Reginald Winn. All these honoured guests have practised at their chosen profession for forty years and over.

President Flanagan in his retiring address thanked his Executive, particularly the Secretary Dr. William Stanley Swetman and Dr. B. Bell, Treasurer, also Dr. M. L. Donnigan for their untiring efforts and devotion to duty. He said that during the last year the Club had held some fifteen meetings and the Fall Clinic.

Incoming Executive were duly elected to their various offices:

Hon. President, F. C. Flanagan

President, Dr. Reg Winn

President-Elect, Dr. William S. Swetman

Secretary, L. B. Burton

Treasurer, R. B. Bell

Executive Committee: Dr. H. E. Laishly, Dr. W. A. Pitcairn, Dr. A. G. Racey, Dr. C. C. Bourne, Dr. W. E. Charland, Dr. J. W. Gerrie.

Representative to the Hygiene Committee, Dr. N. L. Martin.

The meeting closed with a vote of thanks to the management and staff of the Mount Stephen Club by Dr. Prescott Mowry and also a hearty vote of thanks was proposed to the outgoing Executive by Dr. Dan MacDonald.

Accidental Death of Assistant

It is with deep regret that the members of the Montreal Dental Nurses' and Assistants' Association have learned of the untimely death of Nancy Louise MacCunn, who was accidentally killed in an explosion in the Drummond Medical Building on December 30.

Nancy had been a dental assistant in Montreal for the past six years. She is survived by her mother Mrs. R. N. MacCunn and a sister Mrs. Bob Likely.

BRITISH COLUMBIA:

Vancouver Dental Society

The first meeting for 1944 of the Society was held in the Hotel Vancouver, on January 4. Dinner preceded the meeting.

Among the items of business dealt with was the question of revision of Workmen's Com-

pensation Board fees. It has been felt and discussed that the fee schedule of the Board should be brought up to date. After much discussion a motion was carried to the effect that the Council of Dental Surgeons of British Columbia should be asked to act for the Society in dealing with the Board in this matter.

Two members of the Society, Dr. W. K. Sproule and Dr. H. M. Cline were congratulated by the President on having recently had conferred on them Fellowship in the American College of Dentists.

The speaker for the evening was Dr. R. H. Clark of the Chemistry Department, University of British Columbia. Dr. Clark's department has an enviable reputation. He, himself, has won recognition for his contribution to war chemistry, particularly along the line of explosives.

He took for his subject "Recent Advances in Chemistry". The importance of by-products was discussed, and the necessity for simplifying complicated processes to make the products commercially possible. The close relationship between many of the by-products, including certain enzymes and vitamins, the work done on atabrin to replace quinine, and extensive explanation on the development of the different synthetic rubbers, were all presented in a clear manner.

Dr. Clark's address was listened to with a great deal of interest and was very much appreciated.

Dr. Chambers expressed to Dr. Clark, in a vote of thanks, the gratitude of the Society for this fine evening.

ALBERTA:

Edmonton Dental Society

Dr. M. R. Levey and Dr. H. H. Hepburn were present at the December meeting of the Edmonton Dental Society, and with many case histories coordinated some of the pathological and neurological conditions of the eye, ear, nose and throat, with those of the oral cavity.

Oral lesions, and the manner in which they are directly responsible for abnormalities in the field of rhino-oto-laryngology and neurology were discussed. Dr. Levey particularly stressed those of the maxillary sinus and Dr.

Hepburn those of the fifth and seventh cranial nerves.

Irritation, producing reflex pain, primary infective foci in the mouth with resultant bacteremia, toxemia, and protein allergies were the more common causes. Arthritis, rheumatism, tic douloureux, epilepsy, deafness, and many other disorders may result. Their relation to the bacterial and mechanical irritations of dental caries, malposed and unerupted teeth, and pathological supporting tissues were fully discussed.

Many members took part in the discussion. Dr. H. R. McLean suggested that more complete case histories be kept, and Dr. W. S. Hamilton thanked the speakers for their clarification of many problems which require both medical and dental services to effect relief.

The meeting was held after dinner at the Macdonald Hotel on December 7.

Dr. W. E. Webber presided.

"Some newer Aspects of Operative Dentistry" was the subject of an address by Dr. H. R. McLean at the January meeting of the Edmonton Dental Society. Dr. McLean illustrated his address with some of his own colour photography.

Dr. G. A. Gemeroy gave the vote of thanks to the speaker. Dr. W. E. Webber presided over the dinner meeting which was held January 4, at the Macdonald Hotel.

•

Dr. W. Scott Hamilton, Director of the School of Dentistry of the University of Alberta, also carries on a practice limited to Dental Diagnosis and Oral Surgery, in the Tegler Bldg. Edmonton.

•

Calgary Dental Society

Mrs. Kenneth Seaborne was the guest speaker of the Calgary Dental Society recently. She gave an excellent talk on "Nutrition in Relation to Dentistry", to the members and their guests from the Canadian Dental Corps. The first lady speaker, in memory, before this Society, delivered one of the most interesting and informative addresses in recent years.

Of particular interest was the assessing of the diet of some 40 dentists, men who might be thought to have more than average knowl-

edge of the importance of good food in relation to good dental and general health.

A chart was provided for marking the value of the daily intake of vitamins and minerals. A top value of 100 points was given for a fully adequate diet of these basic substances. It was disconcerting to the writer that only one man present marked himself just over 90, and most of the others were well below that figure. Ninety-six plus is rated very good, eighty-six to ninety-five is good, and below that fair to poor.

Ordinary human inertia and food likes must be more important than deficiency of knowledge, in our patients' lack of cooperation in dietary improvements. Either we should know more or do more ourselves. The writer drew a snappy 78 himself with only a little padding, and at that was fairly well up with the field. For a group of men who profess to know something about diet and preach it to others, it is a very poor showing.

SASKATCHEWAN:

Regina Dental Society

At the January meeting of this Society, the principal business was concerned with a review of the dental services rendered the indigent of the city during the past year, and plans for the present year. The city makes a grant each year for dental services to the needy, including school children, and the Society allots the work to its various members. Dr. L. J. D. Fasken, the Secretary-Registrar of the Dental Council, examines the mouths of the school children, and it was decided to have him send those needing dental attention to the members of the Society in rotation. Previous to the war, this work was done by full-time dentists in the employ of the City Council in an office maintained and equipped by the City, but the work is now being done by the city dentists in their own offices. At a recent meeting of the Saskatoon Dental Society, a discussion took place concerning the fees authorized by the Dependent's Advisory Committee for dental work rendered the dependents of men in the Armed Services. It was felt that the fees were entirely inadequate and the Secretary was instructed to convey the opinion of the members of the Society to the Committee concerned.



HALIFAX TRIPLETS

Shown in the above picture, where they are held by three members of the staff of the Halifax Infirmary, are the triplet daughters of Dr. and Mrs. Joseph F. Griffin. The triplets were born on December 5, and Dr. Griffin, a Halifax dentist, reports that his three daughters are making excellent progress. Left to right the babies are Joan MacAskill Griffin; Nancy Lee Griffin; and Cynthia Hayward Griffin.

Moose Jaw Dental Society

This Society met in January in the Grant Hall Hotel, with the President, Dr. A. M. Lowey, in the chair. A detailed report was presented showing the dental work done for certain of the school children of the city by the members of the Society during the past

year, which was made necessary by the absence of the school dentist in the Dental Corps. A committee was appointed to present the report to a meeting of the School Board. The Committee was authorized to endeavour to have the Board make some changes in administration for the present year.

"There are ten weaknesses against which most of us must guard ourselves. One of these is the habit of reaping before we have sown, and the other nine are all wrapped up in one practice of creating alibis to cover every mistake made."—The Dental Assistant.

Let every group which enjoys or demands any liberties not only accord to every other similar group the right to enjoy the same liberties but also faithfully promise to defend it in the enjoyment of those liberties. This principle joins to every demand a promise, to every privilege a responsibility.—F. R. Moulton in A.A.A.S. Bul. Oct. 1943.

EMPIRE NEWS

GREAT BRITAIN:

Health Insurance

The British Dental Journal of Dec. 17, 1943, states editorially that the British Dental Association has under consideration a memorandum dealing with the recruitment of the profession, dental education, research, and the means by which adequate dental treatment should be made available for the whole community, and that it is looked upon as one of the most important documents ever produced by the Association.

This editorial continues in part as follows: "It can be said at once that the position taken up in the memorandum is that the adoption of proposals to make all dentists the salaried servants of Local Authorities or the State would be contrary to the best interests of the public. At the same time it is recognized that if the aim of creating a dentally healthy nation is to be realized it is essential to afford complete treatment to the younger section of the community and that this implies an extension and improvement of the schemes for giving treatment to nursing and expectant mothers, pre-school children, school children and adolescents. It is, therefore, proposed that complete treatment should be provided at health centres for each of these priority classes in order to ensure that as high a proportion as possible of the population shall enter adult life with a sound dentition and imbued with a desire to maintain their oral structures in a healthy state, it being visualized that one of the principal functions of the dental health centre will be to promote dental health teach-

ing and the practice of oral hygiene. The service to be given at dental health centres is to be freely available to every member of the priority classes, but those who prefer not to avail themselves of the facilities provided by the State or Local Authorities will be free to make their own arrangements for obtaining dental treatment and advice at their own expense.

With regard to the non-priority classes, i.e. adults over eighteen years of age other than expectant and nursing mothers, the proposals put forward in the memorandum are that the whole of that section of the population now covered by the National Health Insurance Acts and their dependants should be entitled to receive dental benefit from private practitioners. The remuneration of the latter, it is proposed, should be on a *per caput* basis for those who entered the scheme dentally fit and on a scale of fees for the remainder. Thus the adolescent whose teeth had been regularly inspected and treated would be able to secure a continuance of the benefits of regular conservative treatment from the dentist of his or her own choice and the latter would be able to fulfil his proper function as the guardian of the dental health of his patients to a much more satisfactory degree than is at present possible in insurance practice. With the gradual development of a scheme of this kind insurance dentistry would in time cease to be mainly or even largely a breakdown service and the wholesale extraction of teeth and their replacement by dentures would no longer be the predominant feature of industrial practice as perforce it has been in the past.

Change of Address

Notice of change of address should reach the Secretary's Office before the first of the month in which the change is to take effect. Please furnish old as well as new address.

Members in the Military Services may have the Journal sent to home address or military address as desired. If the Journal is to follow you it will, of course, be necessary to keep the office posted about address changes.

In all cases, the former address should be given.

Address all communications to:

Secretary,
Canadian Dental Association,
211 Huron St., Toronto, Ontario.

GENERAL NEWS

New Bulletins Announced by Canadian Dental Research Foundation

The Canadian Dental Research Foundation has recently published two new bulletins which are available, on request, to the Dental Profession in Canada, without charge, for a limited time. They will also be supplied free to Dental and Scientific Libraries in this and other Countries. Dentists outside of Canada who wish to do so may secure copies for a small charge to cover cost of printing and mailing.

The Canadian Dental Research Foundation grew out of a movement during the last war, when a group of public spirited dentists banded themselves together to raise a sum of money to support Dental Research and as a memorial to those of the profession who served and gave their lives in the War.

In 1920, the Foundation was incorporated and received its Charter from the Dominion Government. It was hoped to raise a Trust Fund, large enough to provide a revenue sufficient to actively support and promote Dental Research and it was felt that if the Profession subscribed \$50,000 the public might then be appealed to successfully to contribute at least an equal amount to form a trust fund of \$100,000. This objective was not reached and the trust fund today is only a little over \$16,000, subscribed almost entirely by the Profession.

The interest from this fund, not being sufficient to support actual research, has been used to disseminate the results of research work by Canadian dentists, through the printing and distribution of bulletins. The entire income is devoted to this purpose as no salaries are paid or any remuneration to the authors of the bulletins.

Twenty-four bulletins have already been printed and widely distributed. They have been greatly in demand by Dental Libraries and many of them have attracted considerable attention from dental teachers, students and research workers in other countries throughout the World.

Of the two new bulletins No. 25 entitled "Necrotic Gingivitis Its Histopathology and Treatment with an adherent dressing" by Dr. H. K. Box was first printed in Oral Health

for December 1942, and has been reprinted by the Foundation in bulletin form. Shortly after its publication, a request was received from the Iowa State Health Dept. for 2000 copies, which they secured for the purpose of free distribution to every dentist in the State of Iowa.

Bulletin No. 26 has only just been completed. It is entitled "Electro-deposition and its Applications in Dentistry" by Dr. R. G. Ellis. Comprising 113 pages with 66 illustrations it is quite comprehensive and authoritative. After discussing the general principles of electro-deposition, its use in various techniques such as models for indirect inlays and for processing acrylic operative restorations and other special dental uses are fully described.

As there is nothing of this nature available in dental literature, we believe it will be of great value to the Profession.

The Canadian Dental Research Foundation will send copies of either of these bulletins free on request to Canadian dentists for a period of 6 months after publication.

It was recently decided that owing to limited financial resources, a charge would be made for bulletins after 6 months have elapsed from date of announcement of publication. Requests for copies may be sent to,
CANADIAN DENTAL RESEARCH
FOUNDATION,

312 Medical Arts Bldg.,
Toronto, Ont.

Edmund A. Grant
Associate Secretary-Treasurer.

Putting Fluoride on Teeth About 40% Effective in Reducing Amount of Decay During Year

Putting a 2 per cent solution of sodium fluoride on the teeth of a group of school children reduced by about 40 per cent the amount of caries, or decay, in the teeth of these children during the following year, is reported by Dr. John W. Knutson, dental surgeon of the U.S. Public Health Service, and Professor Wallace D. Armstrong, of the University of Minnesota, in *Public Health Reports*,

the official publication of the federal health service.

Fluorides in drinking water, it was discovered some years ago, will, if present in high enough concentration, cause the ugly tooth condition of mottled enamel. Lesser amounts of fluorides in the water, though failing to cause mottled enamel, apparently protect the teeth against decay. Efforts to use fluorides locally instead of through the drinking water to control tooth decay have previously been made by other investigators on small groups of children, with apparently some success.

The group treated under the direction of Dr. Knutson and Professor Armstrong numbered 289. Their teeth were compared at the end of the year following treatment with those of a control group of 326 children in the same schools. Before the treatment, children of both groups had been suffering about the same amount of tooth decay.

Only the teeth in the upper and lower left quadrants of the mouth were treated. There were 39.8 per cent fewer new carious teeth in the treated than in the untreated teeth at the end of one year. The treatment did not,

however, prevent decay from attacking undecayed surfaces of teeth previously attacked by decay. In other words, about 40 per cent of teeth that had no decay or cavities were protected from caries, but teeth that already had cavities or decay spots were not protected.

If this is borne out by further studies, it means that the fluoride treatment can prevent caries, but not arrest it once it has started. In that case, it probably is a more effective preventive than the 40 per cent figure indicates, because undoubtedly, it is pointed out, some of the new caries developing in the treated teeth had started before treatment, but was not far enough along to be detected when the teeth were examined before treatment was started.

The 2 per cent solution of sodium fluoride used is highly poisonous and must be used and guarded with extreme caution. Whether this is the weakest effective solution and whether eight treatments, the least number given in the study, are more than needed are among questions to be answered by further studies.—*Science*.

IN MEMORIAM

George D. Scott of Hamilton, Ontario, died on December 21 at his home.

Dr. Scott has lived in Hamilton since 1919 and practised in the Lister Block Building. Later he moved to an office on King St. West. He retired in 1936.

He was a life member of Merrickville Lodge A.F. & A.M. and a member of the I.O.O.F.

He is survived by his widow, one daughter, a brother, and a sister.

•
George Elliott Oldham of Toronto, died on January 9, at the age of 54 years.

He was graduated from the School of Dentistry of the Royal College of Dental Surgeons of Ontario in 1920. He began practice in Toronto and continued there until his death.

He was a member of the United Church.

He is survived by his widow, two sisters, and three brothers.

William G. S. McLennan of Mimico, Ontario, died in Toronto General Hospital on January 18, at the age of 42.

He graduated from the Faculty of Dentistry, Toronto, in 1928. For a short time he practised at McLeod, Alberta, then came to Mimico in 1931 where he continued to practise until his death.

He was school dental officer for Mimico for some years and was attached to St. Joseph's Hospital dental service from 1932 to 1934. He was a member of the Toronto Academy of Dentistry and the Ontario Dental Association.

He was a member of Wesley United Church, Mimico, and leader of a large class of boys in Sunday School for a number of years. He was a member of Lake Shore Lodge A.F. & A.M. and past patron of Primrose Chapter O.E.S.

Dr. McLellan is survived by his wife and one son, father and mother, two sisters, and four brothers.

. . . SECTION FRANÇAISE . . .

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.,

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenant, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Venne, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAUDEAU, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

Congrès d'Hygiène Dentaire Publique de Québec

Par le DOCTEUR HARRY S. THOMSON,
Secrétaire du Conseil d'Hygiène Dentaire Canadien

Les 21, 22 et 23 octobre dernier, était convoqué, à Québec, par le Ministre Provincial de la Santé et du Bien-Etre Social, le premier Congrès, consacré à la dentisterie préventive et à la santé des dents (Congrès d'Hygiène Dentaire Publique).— Ces assises d'une durée de trois jours représentaient la première manifestation de ce genre, organisée par le Ministère de la Santé et du Bien-Etre Social du Gouvernement Provincial, dans le but unique de souligner l'importance de la santé dentaire publique, de prévenir la carie dentaire et de lutter contre elle.

L'Honorable Monsieur Groulx, Ministre, le Docteur J. Grégoire, Sous-Ministre, et le Docteur Reny, Chef du Service d'Hygiène Dentaire au Ministère, doivent être félicités du succès de ce Congrès et de tout ce qu'ils ont entrepris, ainsi que l'ont démontré les activités du Ministère de la Santé, pour que l'éducation de l'hygiène et les mesures de prévention puissent accomplir l'amélioration nécessaire de la santé du peuple dans la province de Québec. La preuve la plus éloquente des résultats atteints dans ce domaine a été donnée par l'organisation de cliniques dentaires dans vingt-sept des soixante-quatre Unités Sanitaires fonctionnant à travers toute la province.

Ce Congrès marquait l'inauguration d'un Service d'Hygiène Dentaire au Ministère de la Santé et du Bien-Etre Social de la Province de Québec, comme il célébrait également la nomination, à titre permanent, d'un chef de ce Service,—création et nomination qui rentrent bien dans la ligne de conduite que s'est tracée le Ministère de la Santé. C'était encore le couronnement de longues années d'efforts du Collège des

Chirurgiens-dentistes de la Province de Québec et de sa Commission d'Hygiène Dentaire, du Conseil d'Hygiène Dentaire du Canada, ainsi que de nombreux chirurgiens-dentistes de la province.

Il marquait également une étape dans l'hygiène dentaire publique et a prouvé, d'une façon méthodique et officielle, que le devoir des vingt-sept cliniques dentaires établies dans les Unités Sanitaires à travers la province est non seulement de rétablir le bon état des dents attaquées par la carie, d'extraire celles qui ne peuvent plus être sauvées,—mais d'éduquer et instruire, par de véritables démonstrations, tous les patients des faits et des principes sur lesquels sont basés les services de prévention et de contrôle de la carie dentaire.

Le Ministre a fait participer au Congrès non seulement les trente-quatre chirurgiens-dentistes en charge de ces cliniques, mais les quarante gardes-malades qui les assistent. Les médecins des Unités Sanitaires, qui sont les directeurs de chacune d'elles, furent également invités, afin qu'ils soient informés des nouvelles découvertes scientifiques dans la lutte contre la carie dentaire. Des professeurs spécialisés, de renommée internationale, dans plusieurs des domaines de l'hygiène dentaire, furent les éducateurs et les conférenciers. Le point dominant de tout le programme fut la santé, d'une part, d'autre part, la prévention contre la maladie.

En s'adressant aux congressistes, le Ministre de la Santé et du Bien-Etre Social a dit:—

"Vous devez encore, bien entendu, extraire toutes les dents qui ne peuvent être sauvées et remplir toutes les cavités qui se trouvent dans les dents,—mais votre première responsabilité, tout autant envers le Ministère qu'envers le patient lui-même, est principalement d'éduquer ce dernier, pour lui faire comprendre l'importance de toute maladie dentaire, de l'hygiène de la bouche et des soins à donner aux dents dès le bas âge."

C'est dans ce but que fut convoqué ce cours spécial de trois jours et afin que les représentants des Unités Sanitaires du Québec soient mieux équipés pour y parvenir.

Ce Congrès, en vérité, n'a pas été formé d'hier, car le Docteur Joseph Nolin assumait, il y a déjà plus d'un quart de siècle, la présidence de la Commission d'Hygiène Dentaire. Le Docteur Ernest Charron s'est joint à lui quelques années plus tard et tous deux, tout au long des années, changeant, quand il le fallait, les Comités des représentants de la Profession, ont poursuivi un programme continu d'éducation publique sur l'importance primordiale de la santé de la bouche et de dents solides et saines, afin de maintenir, dans notre peuple tout entier, une meilleure santé générale. A plusieurs reprises, ces Comités ont demandé et occasionnellement obtenu du Gouvernement et des responsables officiels de la santé publique, l'appui financier nécessaire à leur organisation. D'année en année, ils persistèrent dans leurs demandes, poursuivirent la mise à exécution de leur programme, apportant à le faire infiniment de conscience et de sérieux, étudiant, se livrant à des recherches et confrontant les faits. Ils étaient non moins convaincus que pour obtenir le succès, il leur fallait essentiellement soulever l'opinion publique, faire connaître à la population l'importance de la santé dentaire, et cela avant même que le Gouvernement puisse leur accorder l'aide qu'ils jugeaient indispensable.

Il y a deux ans, enfin, le Bureau des Gouverneurs du Collège des Chirurgiens-Dentistes de la province de Québec, sous la présidence du Docteur Armand Fortier, nomma une nouvelle Commission d'Hygiène Dentaire composée d'hommes jeunes, présidée par le Docteur Jean Brault auquel succéda récemment le Docteur Gabriel Lord.

Au cours de l'année écoulée, avec l'entière coopération du Bureau des Gouverneurs du Collège, cette Commission a mené et poursuivi une intense campagne de propagande et d'éducation, en faveur de l'hygiène dentaire publique, campagne englobant plusieurs parties de la province. Le programme ainsi réalisé est pratique, réaliste, bien au

point, bâti d'une façon nouvelle et comprend, à l'heure actuelle, plus de cinquante causeries données à la radio, aux postes français et anglais de la Société Radio-Canada et au Poste CKAC de la Presse, à Montréal, par des orateurs bénévoles aussi compétents que désintéressés, choisis parmi l'élite de la Profession médicale, de la Profession dentaire, du monde politique et de la meilleure société. Ce programme comprend aussi toute une série de séances d'hygiène dentaire destinées à la population écolière et la publication dans plus de cent journaux anglais et français de la province, quotidiens et hebdomadaires, d'articles spécialement préparés. Cette campagne a réveillé et soulevé l'opinion publique et le programme en son entier a reçu l'approbation générale ainsi que l'aide généreuse, tout aussi bien morale que financière, du Gouvernement de la province et, en particulier, de l'Honorable Ministre de la Santé et du Bien-Etre Social.

La Commission d'Hygiène Dentaire et le Collège des Chirurgiens-dentistes de la Province de Québec ont le droit de ressentir une profonde satisfaction, tout aussi bien professionnelle que personnelle, devant les résultats actuels qui ont couronné leurs incessants efforts. Dans le Congrès de Québec et dans la création d'un service d'hygiène dentaire au Ministère de la Santé et du Bien-Etre Social, la Commission peut justement voir le fruit légitime de son travail long et ardu.

Le nouveau directeur du Service Dentaire, le Docteur Reny, assume son poste avec toutes les qualifications voulues pour remplir ses devoirs. C'est un diplômé en dentisterie de l'Université de Montréal, un gradué en hygiène publique (B. Sc. — Dent.) de l'Université de Toronto, et le Congrès de trois jours qu'il vient d'organiser peut être considéré comme un critérium et montre bien que son service progressera rapidement sous sa direction.

Le Conseil d'Hygiène Dentaire du Canada a coopéré avec le Ministère Provincial de la Santé et la Commission d'Hygiène Dentaire du Collège des Chirurgiens-dentistes de la Province de Québec, au cours des quinze dernières années, les aidant de toutes manières, et il a conscience d'avoir contribué, pour une part peut-être petite mais vraiment importante, à l'achèvement de l'organisation actuelle. Le Conseil Canadien d'Hygiène Dentaire continuera à donner, où que ce soit et de quelque manière que ce soit, toute l'assistance possible et il est certain que les efforts conjoints des chirurgiens-dentistes du Conseil Canadien d'Hygiène Dentaire et du Ministère Provincial de la Santé feront naître une connaissance meilleure de l'importance de la santé des dents et, en conséquence, une santé générale très améliorée pour tout le monde.

Encore une fois, nous félicitons le Collège des Chirurgiens-Dentistes de la Province de Québec, la Commission d'Hygiène Dentaire, l'Honorable Ministre de la Santé et ses collaborateurs, pour ce Congrès de Québec, qui traduit les résultats obtenus par de nombreuses années de travail et d'efforts au service des meilleurs principes et des règles essentielles de l'hygiène de la bouche.

Un juste hommage, enfin, doit être rendu à tous les conférenciers du Congrès, dont la clarté d'exposition n'eut d'égale que la compétence avec laquelle les différents sujets choisis par eux furent traités. Ils surent non seulement éveiller et soutenir l'intérêt le meilleur de leurs auditeurs, mais encore leur ouvrir de nouvelles perspectives et les instruire davantage.

Ces différents conférenciers furent, par ordre chronologique, le Docteur Antonio Reny, le Docteur J.-Ernest Sylvestre, le Docteur Stewart McGregor, le Docteur Jean Dallaire, le Docteur Edward R. Van Maltzahn, encore le Docteur J.-Ernest Sylvestre, le Docteur Paul Geoffrion, le Docteur Viger Plamondon, de nouveau le Docteur Edward R. Van Maltzahn et le Docteur Paul Geoffrion, le Docteur G. Ratté, de nouveau le Docteur Antonio Reny, une fois encore le Docteur Edward R. Van Maltzahn, puis le Docteur J.-Ernest Sylvestre, encore le Docteur Stewart McGregor, le Docteur Lasalle Laberge et, enfin, une dernière fois, le Docteur Antonio Reny.

Vitamines et Avitaminoses

Avitaminoses franches et Avitaminoses larvees

par le DR CHAPOTEL

Les vitamines, les avitaminoses.

Les recherches pasteurienues en nous démontrant l'existence des microbes vinrent troubler brutalement notre quiétude "alimentaire" si j'ose dire, et nous inspirer une véritable crainte pour ces infiniment petits que nous ignorions la veille encore.

Aussi ce fut la guerre aux aliments crus, chacun péla consciencieusement ses fruits et fit désormais cuire longuement ses légumes. Toute nourriture n'avait de réelle valeur que pure et riche en énergie calorifique, et nos jeunes enfants se virent alimentés de lait et de farines absolument stériles.

Bref, ainsi que le disent Randoiu et Simonnet, à force de manipuler, de nettoyer, de purifier, de stériliser les aliments que la nature lui offre, l'homme civilisé a fini par leur enlever, en totalité ou en partie, des substances non connues, absolument nécessaires à l'existence, comme le démontra d'ailleurs Stepp vers 1898, et assurant le développement régulier des jeunes individus.

Parmi les influences alimentaires affaiblissant la constitution minérale, et par conséquent prédisposant les dents à la carie, il faut en effet signaler au premier chef les régimes carencés et le défaut ou l'insuffisance de ces principes qui sont les vitamines. Les travaux d'Eijkmann en 1897 sur le bérubéri de l'homme, et sur le bérubéri expérimental, ont montré qu'elles étaient douées d'un assez grand pouvoir pour que leur suppression puisse provoquer des troubles pathologiques graves.

En 1906, Hopkins se demanda si l'absence de certains facteurs dans l'alimentation n'était pas à la base de plusieurs affections comme le rachitisme et le scorbut, et prouva seulement en 1912 qu'il avait vu juste en soumettant à un régime simplement raffiné, des animaux qu'il ne sauva qu'en ajoutant une certaine quantité de lait frais à leur alimentation.

Depuis, le cadre des maladies par carence s'élargit peu à peu et l'on y rangea la xérophtalmie, la pellagre. . .

C'est le polonais Funk qui le premier donna en 1911 le nom de vitamine à une substance chimique curative du bérubéri. Dès lors naquirent les "maladies par carence" où "avitaminoses".

D'autres travaux: de Mendel, d'Osborne, de Carrisson, de Bishop, d'Evans; ceux de Wells, Mellanby, Mac Collen et plus récemment de Weill et Mouriquand ont permis de distinguer plusieurs vitamines que nous allons décrire rapidement.

Ce qui précède nous montre l'importance imprévisible lors de leur découverte, du rôle énorme et de l'étendue de leurs indications thérapeutiques.

De plus, si comme nous venons de le voir on connaît depuis longtemps un certain nombre de maladies de carence nettement caractérisées que pouvait prévenir ou guérir l'apport de telle ou telle vitamine, on croyait à une symptomatologie très particulière, sans se douter que bien des troubles les plus banaux, bien des manifestations pathologiques les plus courantes relèvent souvent d'un déficit vitaminique.

On sait aujourd'hui que la croissance, le développement de l'individu, sa nutrition,

le fonctionnement de chacun de ses viscères et tous les actes de sa vie organique sont réglés par les vitamines et ne peuvent s'opérer de façon satisfaisante que grâce à elles.

Personne n'en connaît encore le mode d'action sur l'organisme : il est possible que, sortes de catalyseurs, elles agissent en très petite quantité et par leur seule présence.

Par contre, on sait bien qu'elles pénètrent dans l'organisme avec les aliments du règne végétal et animal, et que l'individu est incapable d'en produire lui-même. Cependant les rayons solaires, l'héliothérapie et les U.V. surtout, sont capables d'en déterminer la formation.

Jusqu'à présent cinq vitamines ont été découvertes : on les désigne par les premières lettres majuscules de l'alphabet : A, B, C, D, E.

La vitamine A d'Osborne et Mendel, découverte dans le beurre est liposoluble ; elle se rencontre dans la plupart des graisses d'origine animale seulement, dans la verdure, dans le lait non écrémé, dans le jaune d'œuf, dans le foie et certains viscères (ainsi que dans l'extrait de rein de porc).

Sa privation produit : 1° un arrêt de croissance ; 2° de la xérophtalmie, ou xerosis, ou serome qui est, vous le savez caractérisée par une sécheresse avec atrophie de la conjonctive oculaire, entraînant souvent l'opacité de la cornée et la perte plus ou moins complète de la vision ; 3° enfin, une affection exotique sévissant en particulier au Japon : le hican.

L'autopsie des animaux d'expérience montre des lésions des glandes sécrétoires et de l'épithélium intestinal.

Cette vitamine possède une action multiple : antixérophtalmique, anti-infectieuse, anti-pyogénique.

La vitamine B d'Hopkins et Eijkmann, et Funk, soluble dans l'eau et l'alcool, est dite hydrosoluble. On la trouve abondante dans le lait, dans toutes les graisses (en particulier dans les graisses d'enveloppe des embryons) dans les parenchymes glandulaires (rein, foie, pancréas) dans les fruits frais et dans la levure de bière. Sa privation détermine des paralysies et le kakke ou bérubéri, sorte de polynévrite périphérique exotique.

Cette affection épidémique que l'on observe au Japon, aux Indes, aux Antilles et au Congo, due à un diplocoque, est caractérisée cliniquement par des troubles moteurs sensitifs, circulatoires et sécrétoires, et anatomiquement par sa localisation presque exclusive sur les nerfs périphériques.

Je m'excuse d'y insister quelque peu, mais ce qu'on sait peut-être moins à son sujet c'est qu'elle se présente sous deux formes :

1° Hydropique ou encore forme humide, qui se traduit par des œdèmes plus ou moins étendus et des épanchements dans les séreuses ;

2° La forme paralytique ou atrophique, encore appelée bérubéri sec, par opposition à la précédente, paralysie prédominant sur les membres inférieurs et donnant lieu à des troubles rappelant ceux de la névrite alcoolique.

La vitamine C, dite antiscorbutique, se trouve dans les feuilles vertes de certains végétaux comme les pissenlits et les choux, dans les tomates, dans le jus de citron, dans l'orange, dans les fruits frais, dans le lait d'où la simple pasteurisation suffit à la détruire. Sa privation produit cette vieille affection si bien connue et justement redoutée autrefois de nos marins : le scorbut avec ses hémorragies multiples surtout au niveau des gencives qui deviennent fongueuses, avec ses troubles gastro-intestinaux, et plus tard sa cachexie progressive, qui si l'on n'intervenait pas, aboutissait souvent à

la mort; elle produit également le scorbut infantile ou maladie de Barlow ou encore rachitisme hémorragique, avitaminose de la 1^{re} enfance avec ses hémorragies sous périostées, son anémie marquée, ses vives douleurs osseuses, surtout épiphysaires.

Comme son nom l'indique, la vitamine C a une action électivement et spécifiquement antiscorbutique.

La vitamine D ou vitamine anti-rachitique se rencontre dans le lait et surtout dans l'huile de foie de morue.

Liposoluble comme la vitamine A, elle est utile pour la fixation du phosphore et du calcium dans l'organisme, d'où son action spécifique sur la croissance des os longs.

La vitamine E, enfin, liposoluble également et de connaissance récente puisqu'elle n'est née qu'en 1923, aurait une influence sur la reproduction de certains animaux.

J'ai sans doute été bien long, mais ces notions sont capitales au point de vue de la diététique et de la thérapeutique, d'autant plus qu'il n'est pas toujours facile de mettre en évidence la vitamine faisant défaut, pas plus qu'il n'est toujours commode d'instituer un régime alimentaire correct vis-à-vis d'une ou plusieurs vitamines. Nous avons dit plus haut que l'individu seul ne pouvait faire la synthèse de ces substances et que ces dernières existent 1° dans les aliments frais, or 2° elles existent également chez les individus à la naissance et constituent une réserve provenant des vitamines maternelles qui permet environ 6 mois de vie carencée.

Ceci vous explique la rareté des accidents avant 6 mois d'âge, et par contre l'apparition, possible consécutivement, du scorbut infantile par exemple, du fait de laits carencés, je veux dire stérilisés.

Donc, toutes les maladies causées par la diminution de la réserve en vitamines peuvent produire chez l'homme une déminéralisation plus ou moins accentuée, et se seront 1° toutes les maladies de carence: le hican, le béribéri, le scorbut, le rachitisme surtout infantile, l'ostéomalacie ou ostéoporose, la pellagre, le scorbut infantile, la tétanie, l'hérédospécificité, la chlorose; 2° tous les régimes alimentaires carencés dans les maladies du tube digestif, dans le cancer où l'abus des régimes entraîne l'inanition progressive, dans l'hygiène défectueuse, les mauvaises habitudes, dans les états de carence dus à une simple insuffisance quantitative, comme l'ont démontré les expériences de Marshall, comme l'a démontré également Wells: en constatant chez des cobayes mis au régime scorbutique des phénomènes de décalcification dentaire avec dégénérescence de la pulpe; en constatant l'absence de caries dentaires chez les habitants de la haute Ecosse (dont le régime alimentaire fréquemment composé de soupe à l'avoine, de lait, de beurre et de hareng salé est très riche en vitamines), alors qu'ils ignorent l'usage de la brosse à dents, quand dans la basse Ecosse où ce régime n'est pas observé, les caries sont fréquentes.

Même constatation par Mellanby chez les indigènes de l'île Lewis, et par Pickerill chez les Maoris aux dents si souvent exemptes de toute atteinte.

Les avitaminoses de l'enfant

Je n'insisterai pas sur la question des avitaminoses franches, qu'elles soient aiguës ou chroniques, et pas plus sur les formes partielles pourtant si intéressantes, car il faudrait alors un volume, et d'autre part, au diagnostic le plus souvent facile chez l'adulte ou l'adolescent qui, eux, analysent et extériorisent, répond automatiquement un traitement bien net et fort simple, mais je m'attacherai davantage à celle moins connue des avitaminoses chez l'enfant (qui lui par contre n'analyse pas, analyse et extériorise peu ou mal dans bien des cas). Avitaminoses typiques et surtout avitaminoses larvées, qui sont les plus importantes pour nous à cause de leur retentissement possible sur l'état général et sur le squelette, partant sur les dents:

La période de début des avitaminoses larvées n'est qu'un stade de latence, uniquement décelable par la radiographie du squelette, un examen spécial de l'œil et la recherche au microscope d'une hématurie insignifiante.

A ce stade latent succèdent souvent des formes frustes, partielles, paucisymptomatiques, stoppées net ou évoluant vers la forme complète.

Les diverses formes cliniques dépendent d'une part de la tension et du degré de carence: carences d'absorption, d'assimilation, de fixation, (et par conséquent il ne faut pas méconnaître dans la production de ces troubles le rôle des troubles des glandes endocrines elles-mêmes qui retentissent presque toujours sur les fonctions digestives et de nutrition) le rôle des infections et des intoxications même légères fréquemment révélatrices de cas inapparents, le rôle de l'âge (ce sont bien souvent des jeunes), de la prédisposition congénitale dans les carences frustes d'enfants nés de mères anémiées, enfin le rôle des carences des mères qui allaitent, c'est-à-dire qui, éliminant des vitamines, nécessitent de ce fait un régime toujours riche en ces principes.

Passons donc maintenant en revue les différentes formes d'avitaminose chez l'enfant, en adoptant la classification aussi simple que claire du Dr Ed. Lesné dont l'article paru en fin 1936 m'a beaucoup documenté.

Avitaminose A:

1° *Forme normale:* Extrêmement rare, nécessitant pour se produire une carence prolongée et complète, par exemple une alimentation sans beurre, ni graisse, ni lait, elle est caractérisée chez le nourrisson par un ralentissement puis un arrêt de la croissance une chute de poids, de l'anémie. Ensuite apparaissent des troubles digestifs: anorexie et diarrhée infectieuse, cause fréquente de mort prématurée; des altérations des phanères, de la peau, des accidents infectieux respiratoires graves particulièrement fréquents (broncho-pneumonie) démontrant le rôle anti-infectieux de la vitamine A.

A ce moment se montre le signe pathognomonique: c'est le xerosis conjonctival, avec sa rougeur de la conjonctive caronculaire qui devient bientôt terne et plissée, la cornée qui s'opacifie, se perforé et s'affaisse: c'est la fonte de l'œil, bref une véritable kératomalacie, kératite profonde des petits athrepsiques survenant et évoluant de façon torpide et indolore, vers la mort quelquefois si l'enfant n'est pas traité.

Chez l'enfant plus âgé, l'évolution est nettement plus lente et débute par de l'héméralopie, c'est-à-dire par un affaiblissement considérable de la vision dès que la lumière diminue.

2° *Forme larvée.*—Celle-ci par opposition avec la précédente est relativement fréquente: elle débute par des troubles digestifs: diarrhée, anorexie; des troubles dystrophiques: arrêt de croissance staturale, hypotrophie c'est-à-dire sous-nutrition, œdèmes des extrémités.

La peau sèche se pigmente, les ongles et les cheveux cassent. Enfin, on note un certain degré d'hypertonie musculaire douloureuse.

En présence de tels troubles il faut penser à une carence de vitamine A et rechercher le signe caractéristique: à savoir le fléchissement de la cornée. Mais il est des formes plus larvées encore, où ce qui nous mettra sur la voie sera tantôt une conjonctivite banale ou granuleuse, un simple dépoli de la cornée et chez le grand enfant une héméralopie isolée.

Des formes complexes associées à d'autres carences sont fréquentes: par exemple en vitamine B et acides aminés.

Traitement: Le traitement des avitaminoses est assez simple: donner au sujet atteint de carence, la vitamine appropriée qui lui manque ou à défaut une médication vitaminée polyvalente.

Ici, le traitement: a) prophylactique, consiste en un régime riche en graisses animales: lait non écrémé, beurre, et en huile de foie de morue que l'on donnera aux nourrices, les vitamines s'éliminant par le lait; b) curatif comportera de l'huile de foie de morue et du carotène.

Dans cette première forme ce qui nous intéresse surtout c'est l'arrêt de croissance, c'est la broncho-pneumonie, qui peuvent avoir sur les dents un retentissement considérable.

Avitaminose B.

On a pu décomposer la vitamine B en ses deux principaux facteurs: l'un B¹ anti-béribérique, l'autre B² facteur de croissance et de nutrition.

1° *Forme normale*: on la rencontre surtout au Japon et aux Indes où la nourriture est en grande partie composée de riz poli. Elle est caractérisée, chez le petit enfant allaité par des femmes ainsi alimentée, par une perte d'appétit, des vomissements, de la constipation; puis des troubles cardio-vasculaires tels que tachycardie et palpitations aboutissant à la dilatation cardiaque accompagnée d'œdèmes et de cyanose, enfin à l'asystolie complète. On note quelquefois des paralysies assez rares aux membres inférieurs, atteignant plus fréquemment le récurrent: c'est la forme dysphonique ou aphonique.

Chez le grand enfant, chez l'adolescent, on a décrit une forme cardio-vasculaire entraînant une mort rapide, une forme atrophique sèche localisée aux membres inférieurs et une forme humide avec grands œdèmes, formes associées parfois à des troubles intestinaux et à des accidents fébriles.

2° *Forme larvée*: Elle est de beaucoup la plus fréquente: très atténuée elle atteint aux environs de leur 2^e année les enfants nourris de farines très cuites ou très blutées, ou de bouillon de légumes ayant trop bouilli. Nous savons pourquoi.

Les premiers signes sont des troubles digestifs: anorexie très marquée et constipation, puis, sans traitement: ballonnement intestinal avec météorisme parfois intense, un arrêt de croissance, des troubles nerveux avec asthénie, insomnie, légère contracture des membres et de la nuque pouvant parfois en imposer pour des phénomènes de méningisme, enfin une altération des téguments avec peau sèche, squameuse, pigmentée.

Ici, comme dans l'avitaminose A il y a aussi une diminution de la résistance aux infections montrant bien que les vitamines A surtout, mais B également sont de véritables agents de défense de l'organisme.

Cette carence fruste se rencontre fréquemment de concert avec les carences en vitamines A, D, C, et par exemple l'on y rattache la pellagre quand il y a association avec un manque d'acides aminés, ainsi chez les Européens du centre se nourrissant presque exclusivement de maïs qui contient très peu de tryptophane: c'est une maladie de la seconde enfance caractérisée par des lésions cutanées des parties découvertes, consistant en rougeurs avec pigmentation et desquamation, puis, ce qui nous intéresse, par de la stomatite avec rougeur de la langue, qui est dépapillée comme dans la scarlatine enfin par des troubles digestifs: diarrhée ou constipation. Rarement des troubles nerveux.

Cette avitaminose B larvée est assez délicate à diagnostiquer, mais devant une pigmentation anormale et une anorexie très nette, il faut y penser.

Traitement: a) prophylactique, il consiste dans l'emploi de farines fraîches, peu blutées ni trop cuites; b) curatif, il utilisera selon l'âge les fruits crus bien mûrs, la levure de bière ou une dose journalière de 20 à 25 milligrammes de Flavine.

Pour nous, nous retiendrons surtout ici l'arrêt de croissance et la stomatite pellagreuse.

Avitaminose C: c'est le scorbut, lorsqu'elle est totale.

1° *Forme normale*: Elle survient après 6 mois au plus tôt, l'enfant naissant nous le savons avec sa réserve de vitamines maternelles, chez des nourrissons élevés avec du lait ou des farines hautement stérilisées. Elle se caractérise par des douleurs vives au niveau des os longs, des tuméfactions, dues à des hématomes sous-périostés et épiphysaires, principalement de l'extrémité inférieure du fémur et de l'humérus.

L'anémie, l'arrêt de croissance sont quasi constants. La fièvre est moins fréquente.

Les hémorragies gingivales complètent ce tableau clinique heureusement rare aujourd'hui, le jus de citron entrant dans l'alimentation de tout allaité artificiel.

Chez le grand enfant cette forme complète est encore plus rare, avec ses hémorragies musculaires très abondantes, sa stomatite et ses gingivorragies.

2° *Forme larvée*: elle est aussi beaucoup plus fréquente, peut précéder une forme type ou ne pas évoluer et ses aspects cliniques sont nombreux: c'est la forme dystrophique avec diminution de la résistance aux infections, et surtout stabilisation opiniâtre du poids et de la taille, et anorexie absolue; c'est la forme anémique, la forme fébrile à courbe désordonnée, à grandes oscillations thermiques avec anorexie; c'est la forme hémorragique, véritable angio-dystrophie scorbutique avec ses hémorragies superficielles et profondes, tantôt simple hémorragie cutanée, purpura, pétéchies, prouvant la fragilité capillaire, tantôt hémorragies multiples sous-périostées, hémarthroses, orbitaires avec protrusion du globe oculaire, ou viscérales, intestinales, rénales, méningées, et dans ces cas anémie plus ou moins imposante; tantôt enfin hémorragies occultes à rechercher; soit hématurie soit méloena; enfin des formes associées à d'autres avitaminoses, surtout A et D, se masquant plus ou moins les unes les autres au point de vue symptomatologique.

Aussi, c'est dire que le diagnostic de ces avitaminoses n'est pas toujours facile, et la radiographie nous viendra alors en aide pour déceler: hématomes sous-périostés, déformations des extrémités osseuses costales en bouchon de champagne, cercle foncé autour des noyaux épiphysaires des os longs, etc...

Traitement: a) prophylactique, c'est l'emploi du jus de citron, d'orange, de tomate à partir du 3e mois; b) curatif, on changera d'abord de lait et on utilisera l'acide ascorbique soit "per os" soit en injections de 50 à 100 milligrammes.

Je ne soulignerai pas cette fois l'intérêt que présente également pour nous la privation de vitamine C qui règle le fonctionnement des organes hématopoïtiques.

Avitaminose D:

1° *Forme normale*: c'est le rachitisme avec toute sa complexité étiologique, avec aussi son aspect clinique que nous connaissons bien, maladie de croissance par excellence avec ses troubles généraux, son anémie, ses troubles gastro-intestinaux, ses altérations du squelette et ses troubles dentomaxillaires. Je n'y insisterai pas; du reste le rachitisme confirmé est devenu aujourd'hui assez rare, mais un grand nombre de troubles morbides de l'enfance sont les premiers signes de ces troubles du métabolisme, de l'utilisation phospho-calcique. Les enfants pâles et languissants aux chairs molles, à l'appétit capricieux, au poids et au développement insuffisants, ceux qui paraissant en bonne santé ne se décident pas à marcher ou à pousser leurs dents, font en réalité leurs premiers pas vers le rachitisme.

2° *Forme larvée*: Elle est pauci-symptomatique et se caractérise essentiellement par le retard de la fermeture de la fontanelle, par le retard de l'évolution dentaire, de la marche, par l'hypotonie musculaire des membres et de l'abdomen qui est flasque et distendu. Le diagnostic sera complété par la radiographie et par la recherche de la

diminution du phosphore sanguin. Les formes associées à d'autres avitaminoses A, B, C ou à une carence ferrique sont fréquentes.

Traitement: a) prophylactique, il doit être prénatal, en instituant l'hygiène de la mère, et de toute façon précoce par la prescription à la nourrice des œufs et de l'huile de foie de morue, la vitamine D passant dans le lait. A défaut d'allaitement maternel on utilisera le lait d'animaux paissant en plein air. Enfin on exposera les enfants à l'air et à la lumière. Pour les citadins, on suppléera à la carence de soleil au moyen des U.V. et on donnera de l'huile de foie de morue ou de petites doses quotidiennes de stérol irradié (5 gouttes d'une solution à 1%); b) curatif, le traitement comprendra des doses plus fortes de stérol irradié (1 à 4 milligrammes) et des U.V.

L'histoire des avitaminoses surtout larvées n'a pas qu'un simple intérêt nosographique: elles constituent en effet chez l'enfant des états pathologiques complexes et fréquents; mais les progrès cliniques et biologiques nous ont appris à les prévenir et à les guérir.

Soulignons cependant la fréquence des formes associées et la difficulté fréquente du diagnostic qui nous conduit, en cas de doute, à une thérapeutique pluri-vitaminique, capable de suppléer à cette carence multiple dont il est parfois malaisé de trouver le facteur essentiel.

L'avitaminose D est pour nous primordiale et nous avons de longue date appris à en bien reconnaître les symptômes. C'est uniquement son retentissement sur le bloc dento-maxillaire qui nous amène souvent à intervenir à plus ou moins longue échéance, mais quelle importance acquiert alors notre rôle qui passe d'emblée au premier plan.

Je voudrais qu'avec ces quelques moyens d'investigation nous puissions tous, dans l'exercice de notre profession, dépister en particulier les avitaminoses frustes, chose la plus difficile, mais problème dont nous viendrons à bout chacun dans notre cabinet avec un peu d'attention.

Nous consultera-t-on en temps et heure?

Il ne peut certes être pour nous souvent question du nourrisson, et encore..., mais quoi qu'il en soit si nous savons prévoir, diagnostiquer, et ce sera au cours d'un examen ou au cours de soins que nous aurons la puce à l'oreille, nous rendrons à nos malades petits et grands un signalé service après avoir traité: caries, gingivo-stomatites, hémorragies, malocclusions, etc..., en les dirigeant chez un confrère de médecine générale qui pourra parfaire notre traitement avant de nous les renvoyer (surtout lorsqu'il s'agira de jeunes dont la seconde dentition menacée aura alors vraisemblablement besoin de nous plus tard), et qui obtiendra ainsi grâce à nous, disons-le, une guérison définitive. D'où la nécessité d'une véritable symbiose médicodentaire pour la surveillance de l'enfant en vue d'une croissance et d'un développement normaux.

Acryliques^{1°}

Questions et réponses

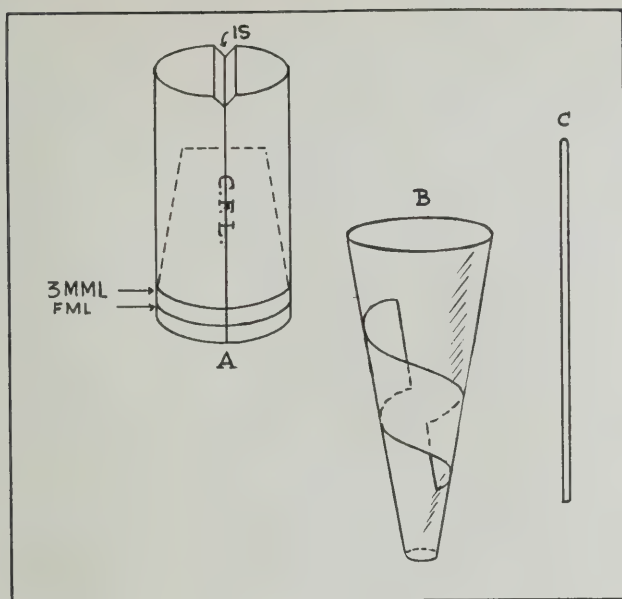
Par le Dr MAURICE N. STERN, New York

Traduction du Dr A. Thibaudeau

Question:

Un de mes amis me signale le fait que vous avez une technique concernant les couronnes sans épaulement. Pourriez-vous m'écrire à ce sujet?

1° La rédaction regrette d'avoir oublié le nom de l'auteur dans son numéro de janvier et prie le Dr Stern de l'excuser.



A=Copper-Band-
Modeling-Compound
Impression showing:—
3MML=3mm line
FML=Free margin
of the gum
C.F.L.=Center facial
line
I.S.=Incisal slot
B=Cone made of old
photographic film
(celluloid). Held by
a strip of Scotch tape.
C=Reinforcing rod for
diolite root-die:—
Made of paper clip
(wire).

Réponse:

Couronne sans épaulement.

Le trait caractéristique de cette technique dont l'écrivain s'est servi avec succès complet depuis cinq ans est de nous fournir une coiffe en acrylique qui s'étend sous le bord libre de la gencive à une distance uniforme et définie enveloppant si bien la racine en s'amincissant si parfaitement que les tissus gingivaux n'en sentent plus la présence. On peut se servir de cette méthode dans le cas d'une couronne à base coulée, tout aussi bien que dans le cas d'une couronne tout en acrylique.

L'endroit idéal pour employer la couronne sans épaulement comprend les incisives inférieures.

Préparation: (Exactement la préparation classique d'une couronne en or). Réduction du bord incisif de 1 ou 2 m.m. en l'usant pareillement au plan incisif. Face linguale et labiale, en enlever juste ce qui est nécessaire pour avoir suffisamment d'acrylique.

Faces proximales. Les rendre parallèles ou tout au plus légèrement convergentes.

L'important principe que l'on perd souvent de vue, c'est que plus votre préparation a la forme d'un cône, plus il y a danger de fracture, à cause de l'action insérante (coin . . .) des plans inclinés (?) Il y a aussi perte de rétention en partant de la forme cylindrique vers la forme conique du noyau. Quand la préparation est finie, enregistrez l'articulé dans la cire.

Pour la couronne sans épaulement, ajustement de la bande de cuivre est très important. Une bande de cuivre d'un numéro plus petit que le collet de la dent est forcée avec une paire de pince à contour, afin de lui donner un ajustement serré au collet. La bande doit être festonnée soigneusement et s'étendre d'au moins un millimètre et demi en dessous de la gencive. Gravez sur la bande de cuivre la marge externe de la gencive pour vous guider quand vous reviendrez prendre l'impression. (Bord libre de la gencive (F.M.L.) en A sur diagramme). Remplissez votre bande, chauffez-la et placez-la. Assurez-vous qu'elle se rendra aux endroits indiqués auparavant. Refroidissez bien, marquez-en bien la face antérieure du bord incisif de la bande à la gencive par une ligne centrale (C.F.L.). Dans le bout libre de la bande

refroidie, incisez une entaille en forme de V (I.S.) avec un disque à séparer. Refroidissez de nouveau, et prenez une impression de tout avec du plâtre. Maintenant que la bande de cuivre et son impression peuvent être retirées du plâtre on en profitera pour s'en faire un modèle. (diolite ou amalgame). Au modèle, bien entendu on aura fait une racine conique de longueur convenable qui, bien graissée et remise dans l'impression générale avec sa bande, selon les indications de la ligne antérieure centrale et du V incisif sera coulée en pierre. Quand la pierre est complètement prise, séparez, sortez le modèle de pierre par un trou pratiqué à sa partie supérieure. Puis gravez sur la bande de cuivre une ligne à 3 millimètres de distances et parallèle au bord gingival (3 m.m.l.). Chauffez et dépouillez votre modèle. Replacez-le dans la pierre et finissez votre travail avec la cire articulée. Maintenant reprenez votre petit modèle, trempez-le dans une huile légère, s'il est en diolite ça le durcira et dans tous les cas cela permettre l'enlèvement facile de la cire. Ensuite, nettoyez la bande de cuivre et coupez avec un disque à séparer une petite fente à travers la bande sur la ligne centrale à l'endroit où elle traverse la dernière des lignes gravées. Ne couper que jusqu'à l'autre ligne qui indique la marge externe de la gencive. Enlever tout le collet de 3 millimètres gravé parallèlement à la ligne externe de la gencive. La face externe du petit collet de cuivre qui reste est recouverte de cire collante et le collet remis à sa place sur le modèle, en observant bien la ligne centrale pour l'alignement. Maintenant, procédez directement au cirage de la coiffe jusqu'au petit collet de sorte que ce dernier devient partie intégrale du modèle de cire de la coiffe. Ce petit collet de cuivre est enlevé du moufle après que la cire en a été bouillie, et les résultats donnent une extension uniforme de la coiffe en acrylique sous la gencive. Cette méthode peut aussi être employée pour les couronnes avec épaulement. Cela donne une délinéation précise des limites périphériques de l'épaulement, et si elle est employée dans le cas d'une couronne avec épaulement, elle porte automatiquement la ligne du ciment sur le bord libre de la gencive.

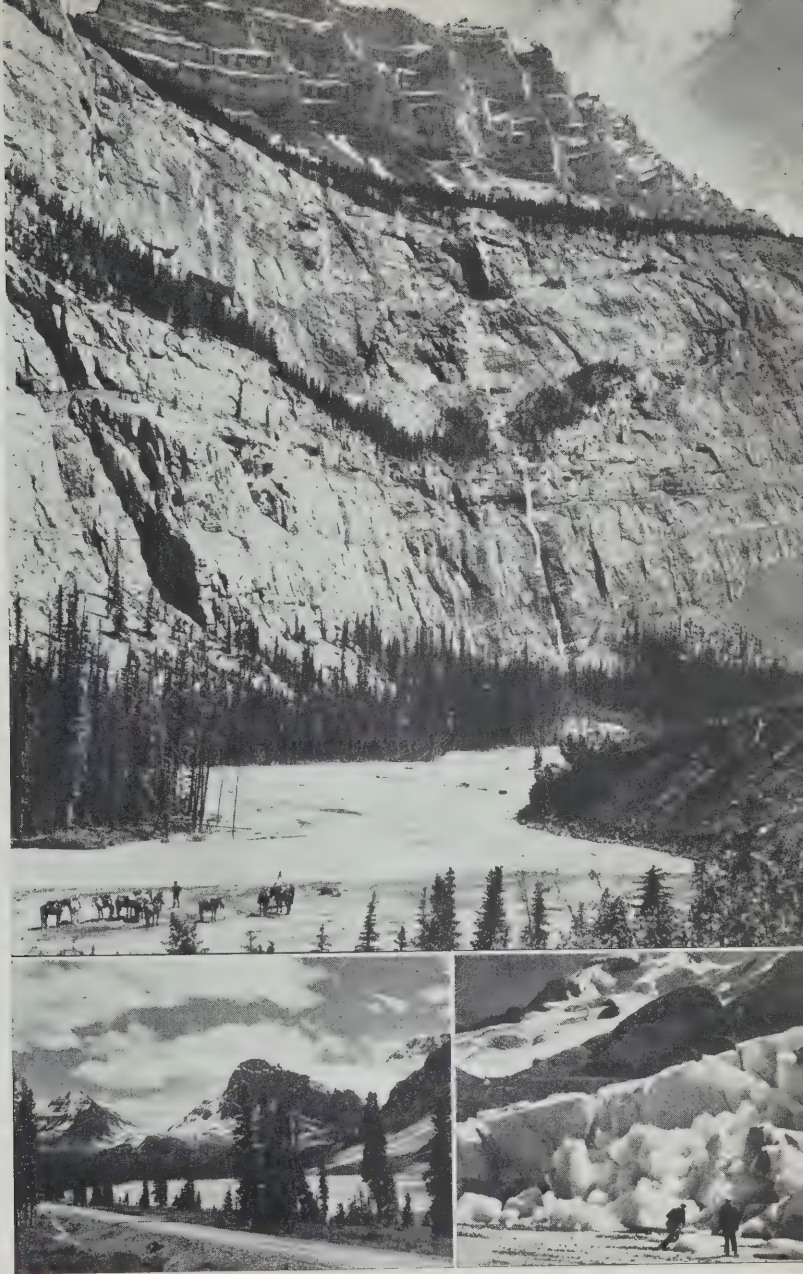
Toute question doit être adressée au Dr Maurice N. Stern 114-06 Queens Blvd, Forest Hills, L.I., New York, U.S.A.



HONNEUR AU MERITE

Major André Durant

André Durand du 20^{ième} régiment d'Artillerie de campagne a été promu Major dernièrement. Agé de 23 ans le Major André Durand est le fils de notre confrère, le Dr. Martial Durand, de Montréal.



VIEWS ALONG THE JASPER HIGHWAY

Is it impossible to hand on knowledge acquired by old age after tragic failure and desperate endeavour—or must youth always begin as though there were no history and no records, burning their fingers at the same fires, plunging into the same follies, marching towards the same calamities, as their fathers did?—Sir Philip Gibbs.



DR. DENIS FOREST
Montreal, Quebec.

Registrar of the Province of Quebec Dental Board since 1922.

Past President of the Association of French Speaking Dentists
of North America.

Clinician attached to Notre-Dame Hospital, Montreal.

The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 10

TORONTO, MARCH, 1944

NO. 3

Prophylactic Use of Sulphonamide Compounds as it Concerns Subacute Bacterial Endocarditis (Streptococci Viridans) and Dental Extractions

By FREDRICK A. WILLIUS, M.D., Section on Cardiology,
and

ALEX. E. BROWN, M.D., Division of Medicine,
Mayo Clinic, Rochester, Minnesota

ABUNDANT evidence exists to the effect that streptococci viridans are commonly resident in dental foci. The general class of streptococci viridans comprises a variety of organisms, but in this discussion we are concerned chiefly with *Streptococcus mitis*, *Streptococcus salivarius*, *Streptococcus faecalis* and *Streptococcus bovis*. *Streptococcus mitis* is by far the most common form occurring in subacute bacterial endocarditis. Okell and Elliott found transient streptococcemia in 61 per cent of 138 cases in which blood cultures were obtained immediately after dental extraction. The majority of the positive cultures were secured within ten minutes after extraction and in most cases, blood cultures taken half an hour to one hour later were negative. Similar observations were made by Hopkins. In a report four years after his first, Elliott reported thirteen cases of subacute bacterial endocarditis occurring as the result of disturbing dental foci. In

this study transient bacteremia, chiefly involving streptococci viridans occurred in 75 per cent of the cases. He showed that extraction of a tooth was not necessary to produce bacteremia but that the simple procedure of manipulation, namely "rocking" of an infected tooth, was likewise capable of disseminating micro-organisms into the blood stream. Richards also showed that the simple manipulation of an infected tooth could result in streptococcemia, which was usually only of ten minutes' duration. Brown expressed the belief that local anaesthesia by the method of infiltration increases the dangers of systemic infection, although more recent observations appear to contradict this view.

Subacute bacterial endocarditis, usually a fatal disease, rarely if ever occurs among patients that have normal hearts. The most common pre-existing lesion is a healed valvular defect, the result of previous rheumatic

carditis. Clinical experience has revealed the tragic fact that in numerous instances the valvular defect itself was so trivial that, had the patient escaped the secondary infection comprising subacute bacterial endocarditis, the anticipation of a normal duration of life was possible. Congenital cardiac defects of all types, single or multiple, likewise constitute hazards for the development of subacute bacterial endocarditis. Much less common hazards are arteriosclerotic and syphilitic valvular lesions. The case of a patient, eighty-two years of age, who had subacute bacterial endocarditis (streptococci viridans) engrafted on an arteriosclerotic valve has been reported by one of us.³⁴

The most frequent infecting organisms are the streptococci viridans although others have been reported. Endocarditis presenting the general features of the conventional subacute bacterial endocarditis caused by streptococci viridans and pursuing a subacute or chronic course has been found to occur with *Neisseria gonorrhoeae*, *Hemophilus influenzae*, *Micrococcus* (commonly believed to be a contaminating organism), *Neisseria intracellularis* (meningococcus) and the organisms of the *Brucella* group.

When subacute bacterial endocarditis occurs, all forms of therapy have been virtually unavailing, although isolated instances of both therapeutic and spontaneous cures dot medical literature. The exception to this statement is constituted by those cases of patency of the ductus arteriosus complicated by subacute bacterial endarteritis in which ligation of the duct presents a reasonable chance for a cure.

The cardinal manifestations of subacute bacterial endocarditis consist of the widespread dissemination of small and large bacterial emboli, a gradually progressive toxic state, secondary anaemia and exhaustion. Death results from gradual exhaustion, renal insufficiency secondary to embolic glomer-

ulonephritis, cardiac failure, massive emboli and rupture of mycotic aneurysms.

DENTAL EXTRACTIONS

Many reports are now recorded in the literature showing the development of subacute bacterial endocarditis caused by *Streptococcus viridans* following dental extraction in cases in which there are healed valvular defects and congenital cardiac lesions. These include the publications of Daland, Calvy, Blumer, Abercrombie and Scott, Rushton, Kapsinow, Abrahamson, Bernstein, Gulas, Vanderhoof and Davis, von Phul, Weiss, Feldman and Trace, Craig, Sale, Palmer and Kempf, Middleton and Burke and Geiger. The exact incidence with which subacute bacterial endocarditis complicates dental extraction is difficult to determine. Weiss, studying the records of 364 cases of subacute bacterial endocarditis at Mount Sinai Hospital in New York, found seven cases (1.9 per cent) in which it occurred after dental extractions and three cases (0.8 per cent) in which it followed tonsillectomy. Middleton and Burke, analyzing the records of eighty-eight cases at the Wisconsin General Hospital, found five cases (5.6 per cent) in which subacute bacterial endocarditis followed dental extraction. While the threat of this tragic complication is a reality, its actual occurrence is undoubtedly unusual when one contemplates the countless dental extractions which are carried out daily in the routine practice of dentistry. No adequate record exists, nor is an approximate estimate possible, of the cases in which patients who have susceptible cardiac lesions undergo dental extraction and in which subacute bacterial endocarditis, under apparently identical circumstances, does not occur. Nevertheless, even though this hazard may not be great in its comprehensive perspective, the remarkable advances made in modern chemotherapy justify the establishment of a

program of prophylaxis and, whenever possible, even the prevention of the rare case is noteworthy.

Palmer and Kempf expressed the belief that the number of teeth extracted bears a relation to the incidence of bacteremia. When not more than two teeth were extracted, transient bacteremia occurred in 17 per cent of eighty-two cases, whereas Okell and Elliott reported an incidence of 61 and 75 per cent without regard to the number of teeth removed. The so-called dry socket has plagued the dental profession since its inception. When this complication occurs, the chances for local infection are greatly enhanced, although no statistics are available to permit assessment of the causal relation of this complication to the development of subacute bacterial endocarditis. In a recent study by Millhon, Austin, Stafne and Gardner the problem of dry socket is discussed comprehensively with particular reference to the extraction of the lower third molar teeth. By the local introduction of sulphathiazole into the socket immediately following extraction these workers have reduced the incidence of dry socket remarkably.

SEASONAL REACTIONS

Petersen and Nedzel, in their paper on dental surgery and endocarditis, wrote of the varying phases of endothelial permeability in relation to bacterial dissemination following dental extraction. They concluded that the seasons play a rôle in the problem, believing that winter and spring carry a greater risk than summer and autumn. This postulate obviously follows the trend of many infections, notably those of streptococcal origin, which are more likely to be prevalent and severe when the resistive forces of the body are reduced.

PROPHYLACTIC USE OF THE SULPHONAMIDES

The various sulphonamide compounds, as they have been added

gradually to the resources of chemotherapy, have been employed with the hope of preventing as well as curing systemic infection. Workers have constantly sought more effective and less toxic preparations. While the sulphonamide compounds have been unsuccessful in the treatment of subacute bacterial endocarditis caused by *Streptococcus viridans* many instances have been observed in which the blood cultures have become negative temporarily. This indicates the fact that the peripheral blood stream may become sterile but the organisms resident in the cardiac vegetations survive. This observation strongly supports the rationale of sulphonamide prophylaxis when streptococcemia alone exists and the actual vegetative involvement of the endocardium has not had the opportunity to develop. Hageman, in 1940, suggested the prophylactic use of sulphanilamide before dental extraction in cases of valvular heart disease but did not describe any definite program.

Clagett and Smith recently discussed the prophylactic use of sulphapyridine. These authors particularly emphasized the importance of ascertaining the existence of a valvular defect before dental extraction is undertaken and suggested that if the patient can positively admit the presence of a valvular lesion the consultation of an internist should be sought. This plan, however, excludes a large group of patients afflicted with minimal lesions who may be utterly unaware of their presence. Clagett and Smith advocated the administration of the drug until its concentration reaches 6 mg. per 100 c.c. of blood (usually attained on the second day) and the maintenance of this level for one or two days after extraction. In the event of the occurrence of a dry socket administration of the drug should be continued for a longer period. Hospitalization during the period of preparation is advocated. A program such as this embodies many ideal sug-

gestions but unfortunately it is impractical and impossible for the average patient. Reasons of economy, if no other reasons, indicate the creation of a simple, economical program of equal effectiveness.

Budnitz, Nizel and Berg, also using sulphapyridine, advocated the oral administration of 1.0 gm. of the drug to be followed by 0.5 gm. every four hours (except during sleep) for a period of six or seven days, the extractions to be carried out on the third or fourth day. In a series of forty-two cases no untoward reactions of the drug were noted, no positive blood cultures were obtained after extraction in the twenty-seven cases in which cultures were taken, and no instance of subacute bacterial endocarditis was observed.

COMPARATIVE ADVANTAGES OF THE SULPHONAMIDES

The gradual evolution of the sulphonamide compounds, resulting from an effort to synthesize more effective and less toxic compounds, has led to the development of five acceptable drugs of this group: sulphanilamide, sulphapyridine, sulphathiazole, sulphadiazine and sulphamerazine. Accumulated clinical and experimental data have shown that sulphadiazine possesses definite advantages over the compounds which have preceded it. These advantages result in part from the satisfactory absorption of sulphadiazine from the gastro-intestinal tract, its slow excretion from the kidneys and its slight acetylation into a derivative which is more soluble than the acetyl derivatives of sulphapyridine or sulphathiazole. In addition, it is effective for all of the organisms affected by the sulphonamide group and it appears to be generally less toxic than the compounds which have preceded it.

Sulphamerazine (monomethyl derivative of sulphadiazine), the most recent member of the sulphonamide group, has been subjected to critical

study by numerous workers, including Goodwin, Peterson and Finland; Hall and Spink; Hageman, Harford, Sobin and Ahrens; Welch, Mattis, Latven, Benson and Shiels; and Murphy, Clark and Flippin. Sulphamerazine appears to possess a definite advantage over sulphadiazine because of its better solubility behaviour; the free drug having been found by Roblyn and associates to be two and a half times as soluble in water as sulphadiazine. Acetylsulphamerazine also was found to have almost the same solubility in water as free sulphamerazine and to be twice as soluble in water as acetylsulphadiazine. In addition, sulphamerazine was found by Welch and his associates to be absorbed more rapidly and more completely from the gastrointestinal tract than sulphadiazine and in comparison with sulphadiazine it was more slowly excreted in the urine. The latter properties thus permit sulphamerazine to accumulate more readily in higher concentrations in the blood than do the other compounds, and also permit the maintenance of these concentrations through less frequent administration of the drug than is possible with the other sulphonamide compounds. In addition to these advantages, sulphamerazine appears at least as effective as the other drugs for the infections influenced by the sulphonamide compounds. It also appears to be no more toxic than sulphadiazine and to date has not given any evidence of causing any injury to the nervous system. It thus appears to possess some advantage, largely because of its solubility behaviour, over sulphadiazine, which heretofore has seemed the sulphonamide compound of choice.

TOXIC MANIFESTATIONS

The sulphonamide compounds, of course, like any other therapeutic agents, may give rise to serious and tragic consequences if indiscriminately used. Toxic manifestations may vary

from those of mild degree, such as headache, tinnitus, nausea and vomiting, dizziness and anorexia, to those of a more serious nature. In the latter group may be included: (1) drug fever, (2) skin rash, (3) leukopenia and granulocytopenia, (4) acute anaemia, (5) jaundice and (6) oliguria or anuria resulting from obstruction of the urinary vessels by crystals of the acetylated sulphonamide compound or from toxic renal injury and manifested early at times by hematuria or renal colic; of these reactions all except leukopenia and granulocytopenia can be detected by observation alone. It is well to note that acute anaemia may occur early but that fatal granulocytopenia rarely occurs before the second week of treatment and that both of these complications occur more frequently when sulphanilamide or sulphapyridine is administered than when some other of the sulphonamide compounds is used.

All of these complications ordinarily constitute an indication for discontinuing use of the drug and forcing fluids, because the drugs are eliminated practically completely in the urine. In general, serious complications and fatalities arise either through lack of observation of patients under treatment or through failure to recognize and treat complications when they arise.

TREATMENT INSTITUTED BY PHYSICIAN

With these facts in mind it becomes apparent that this form of chemotherapy must be instituted and carried out by physicians equipped with the necessary knowledge and experience to prevent serious consequences. The responsibility for the administration of the sulphonamide compounds cannot be delegated to the dental profession.

PLAN OF ADMINISTRATION

We suggest the following plan of administration of sulphonamide compounds as a prophylactic procedure in

cases of valvular cardiac defects or congenital, arteriosclerotic or syphilitic valvular lesions. We prefer the use of sulphadiazine or sulphamerazine, preferably the latter. In the case of sulphamerazine, the initial dose is 3 gm. and thereafter 1 gm. is given every eight hours. In order to prevent or reduce the likelihood of renal complications, sodium bicarbonate in a total dose of 12 to 15 gm. should be administered in divided doses throughout the twenty-four hour period. Litmus or nitrazine paper may be used to test the urine for a reaction which preferably should be neutral or mildly alkaline. Water in quantity of at least 3,000 c.c. must be given to result in a urinary output of at least 1,400 c.c. in the same period. Dental extractions may be performed on the third day and the medication continued for two or three days more. At the time of extraction sulphathiazole should be introduced into the sockets as recommended by Millhon and his co-workers.

OBJECTIONS TO USE OF SULPHONAMIDES

Mention might be made at this point of a possible objection to the prophylactic use of sulphonamides in the foregoing manner. We refer here to the possible development of the so-called sensitivity reaction, which usually produces fever and rash together with other evidences of toxicity; such a reaction may be severe and may be associated with chills and the picture of sepsis. It may occur as late as two years after the drug has been administered originally and may follow the original oral, parenteral or local administration of only a small amount of drug. Unfortunately, this type of reaction may occur at a time when a serious infection is present and when the use of the drug is desired urgently but must be denied the patient. Certainly the occurrence of a "sensitivity reaction" constitutes a contraindication to indiscriminate use of sulphonamide compounds in treat-

ment of colds and minor infections but it would not appear to us to contraindicate their prophylactic use in dealing with as serious an entity as subacute bacterial endocarditis.

While the peril of subacute bacterial endocarditis following dental extraction in certain cases of heart disease is real, its actual occurrence is probably rare when the countless number of routine extractions is considered. Statistics relative to this question are not available, while the statistics dealing with the incidence of dental extractions in cases of subacute bacterial endocarditis obviously result in an exaggerated percentage.

REFERENCES

1. Abercrombie, G. F. and Scott, W. M.: A case of infective endocarditis due to *Streptococcus mutans*. *Lancet*. 2:697-699 (Oct. 6) 1928.
2. Abrahamson, Leonard: Subacute bacterial endocarditis following removal of septic foci. *Brit. M. J.* 2:8-9 (July 4) 1931.
3. Bernstein, Mitchell: Subacute bacterial endocarditis following the extraction of teeth; report of a case. *Ann. Int. Med.* 5:1138-1144 (Mar.) 1932.
4. Blumer, George: The tragedies of tooth extraction. General sepsis and infectious degenerative processes following the treatment of root abscesses. *Boston M. & S. J.* 194:233-237 (Feb. 11) 1926.
5. Brown, H. H.: Tooth extraction and chronic infective endocarditis. *Brit. M. J.* 1:796-797 (Apr. 30) 1932.
6. Budnitz, E., Nizel, A. E. and Berg, L.: Prophylactic use of sulphapyridine in patients susceptible to subacute bacterial endocarditis following dental surgical procedures; preliminary report. *J. Am. Dent. A.* 29:346-349 (Mar.) 1942.
7. Calvy, P. J.: Dental surgery and organic heart disease. *J.A.M.A.* 74:1221-1222 (May 1) 1920.
8. Clagett, A. H., Jr. and Smith, E. H., Jr.: Subacute bacterial endocarditis and dental extraction. *J. Am. Dent. A.* 28:1841-1844 (Nov.) 1941.
9. Craig, P.: Endocarditis and its dental inter-relations. *Ann. Dent.* 5:100-111 (June) 1938.
10. Daland, Judson: Ulcerative endocarditis secondary to dental sepsis and treated by autogenous vaccine. *M. Clin. North America.* 1:343-354 (Sept.) 1917.
11. Elliott, S. D.: Bacteraemia and oral sepsis. *Proc Roy. Soc. Med.* 32:747-754 (May) 1939.
12. Feldman, L. and Trace, I. M.: Subacute bacterial endocarditis following the removal of teeth or tonsils. *Ann. Int. Med.* 11:2124-2132 (June) 1938.
13. Geiger, A. J.: Relation of fatal subacute bacterial endocarditis to tooth extraction. *J. Am. Dent. A.* 29:1023-1025 (June 1) 1942.
14. Goodwin, R. A., Jr., Peterson, O. L. and Finland, M.: Absorption and excretion of sulphamethyldiazine (2 - sulphanilamido - 4-methyl-pyrimidine) in human subjects. *Proc. Soc. Exper. Biol. & Med.* 51:262-265 (Nov.) 1942.
15. Gulas, J. M.: A specific type of systemic disease that may follow dental focal infection. *J. Am. Dent. A.* 20:823-827 (May) 1933.
16. Hageman, P.O.: The use of sulph-anilamide. *J. Am. Dent. A.* 27:909-917 (June) 1940.
17. Hageman, P. O., Harford, C. G., Sobin, S. S. and Ahrens, R. E.: Sulphamerazine; a clinical study of its pharmacodynamics, therapeutic value and toxicity. *J.A.M.A.* 123:325-330 (Oct.) 1943.
18. Hall, W. H. and Spink, W. W.: Sulphamerazine; clinical evaluation in 116 cases. *J.A.M.A.* 123:125-131 (Sept. 18) 1943.
19. Hopkins, J. A.: *Streptococcus viridans*: bacteremia following extraction of the teeth. *J. Am. Dent. A.* 26:2002-2008 (Dec.) 1939.

Prophylactic Use of Sulphonamide Compounds

20. Kapsinow, Robert: Acute pneumococcus endocarditis following extraction of teeth. *J.A.M.A.* 95:409 (Aug. 9) 1930.
21. Middleton, W. S. and Burke, Mead: Streptococcus viridans endocarditis lenta. A clinico-pathologic analysis of the experience in the Wisconsin General Hospital. *Am. J. Med. Sc.* 198:301-323 (Sept.) 1939.
22. Millhon, J. A., Austin, L. T., Stafne, E. C. and Gardner, B. S.: An evaluation of the sulpha drug and other dressings in the incidence of "dry socket" in lower third molars. *J. Am. Dent. A.* 30:1839-1844 (Dec. 1) 1943.
23. Murphy, F. D., Clark, J. K. and Flippin, H. F.: Studies on 2-sulphanilamido - 4-methyl - pyrimidine (sulphamerizine, sulphamethyldiazine) in man; absorption, distribution and excretion. *Am. J. M. Sc.* 205:717-726 (May) 1943.
24. Okell, C. C. and Elliott, S. D.: Bacteremia and oral sepsis; with special reference to the etiology of subacute endocarditis. *Lancet.* 2: 869-872 (Oct. 19) 1935.
25. Palmer, H. D. and Kempf, Myrna: Streptococcus viridans bacteremia following extraction of teeth; a case of multiple mycotic aneurysms in the pulmonary arteries; report of cases and necropsies. *J.A.M.A.* 113:1788-1792 (Nov. 11) 1939.
26. Petersen, W. F. and Nedzel, A. J.: Dental surgery and endocarditis. *J. Am. Dent. A.* 25:1462-1464 (Sept.) 1938.
27. Richards, J. H.: Bacteremia following irritation of foci of infection. *J.A.M.A.* 99:1496-1497 (Oct. 29) 1932.
28. Rushton, M. A.: Subacute bacterial endocarditis following extraction of teeth. *Guy's Hosp. Rep.* 80:39-44 (Jan.) 1930.
29. Sale, Llewellyn: Some tragic results following extraction of teeth. *II. J. Am. Dent. A.* 26:1647-1651 (Oct.) 1939.
30. Vanderhoof, Douglas and Davis, Dewey: Subacute bacterial endocarditis following extraction of teeth with report of two cases. *Virginia M. Monthly.* 60:151-153 (June) 1933.
31. von Phul, P. V.: Subacute bacterial endocarditis; three cases following extractions of teeth. *Northwest Med.* 32:188-191 (May) 1933.
32. Welch, A. D., Mattis, P. A., Latven, A. R., Benson, W. M. and Shiels, E. H.: Sulphamerizine (2-sulphanilamido - 4-methylpyrimidine): I. A comparison of sulphamerizine with sulphadiazine on the basis of absorption, excretion and toxicity. *J. Pharmacol. & Exper. Therap.* 77:357-391 (Apr.) 1943.
33. Weiss, Harry: Relation of portals of entry to subacute bacterial endocarditis. *Arch. Int. Med.* 54: 710-719 (Nov.) 1934.
34. Willius, F. A.: Cardiac clinics. LXX. Clinic on subacute bacterial endocarditis afflicting an aged patient. *Proc. Staff Meet., Mayo Clin.* 15:270-272 (Apr. 24) 1940.

Ontario Dental Association

The 77th Annual Convention of the Ontario Dental Association will be held at the Royal York Hotel, Toronto, Ontario, May 29, 30, 31, 1944. Dentists from the United States and from all parts of Canada will be welcome.

Edmund A. Grant, Secretary.

Enameloid Acrylics

By MAURICE N. STERN, D.D.S., Forest Hills, New York, U.S.A.

ENAMELOID acrylic has established itself in the vanguard of aesthetic materials for tooth tissue replacement. Its qualifications, when properly handled, substantiate that position. Failures due to faulty material or faulty techniques are often the cause of unjust criticism. Lack of knowledge of the behaviourisms of enameloid acrylics is responsible for this situation, and results in faulty correlation of cause and effect.

Pure (unadulterated) methyl methacrylate processed with overpack under maintained compensating pressure will give a perfect product as to quality.

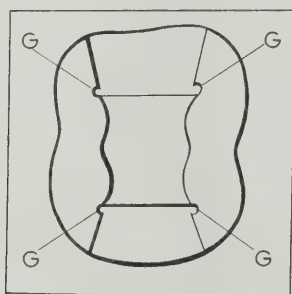


Figure 1.

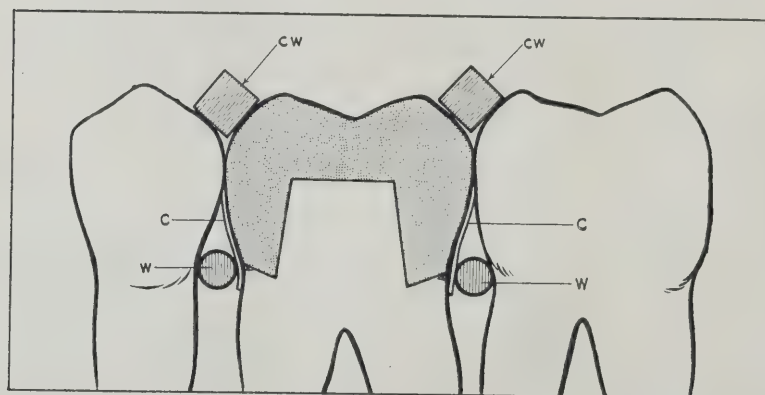


Figure 2.

Form and serviceability depend also upon application of the proper principles of fundamental techniques, based on the physical and chemical properties of the material.

CAVITY PREPARATION

Basic principles of cavity preparation for acrylic inlays are as follows:

Mortice or box type preparations only.

Avoid narrow isthmuses between dovetail and body of the inlay on compound preparations.

No slice preparations.

Do not bevel margins.

Slope gingival floors of interproximals rootward toward the axial wall (Fig. 2).

In M.O.D.'s, M.O.'s and D.O.'s cut guide grooves in the lingual and buccal walls at the axio-lingual and axio-buccal line angles respectively. (Fig. 1, G.G.G.G.).

Special cavity forms for Class III (interproximal on anterior) inlays, (Fig. 3) and some Class IV (compound cavities on anteriors) are shown in diagrammatic outline, (Figs. 4, 5, 6).



Figure 3.

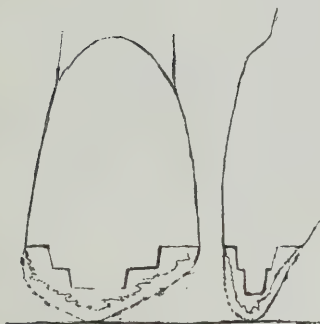


Figure 4.

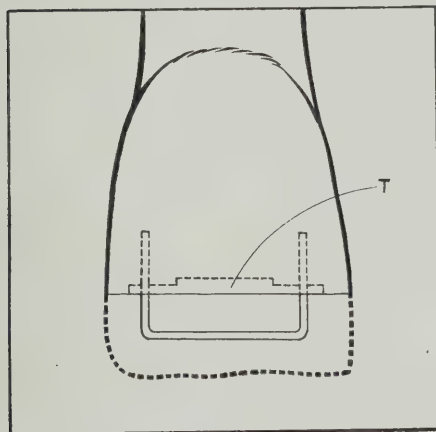


Figure 5.

Following through with the idea that a proper understanding of the behaviour of the material will enable us to avoid the pitfalls of mishandling and misadventure; we must remember that to obtain a dense, non-porous pro-

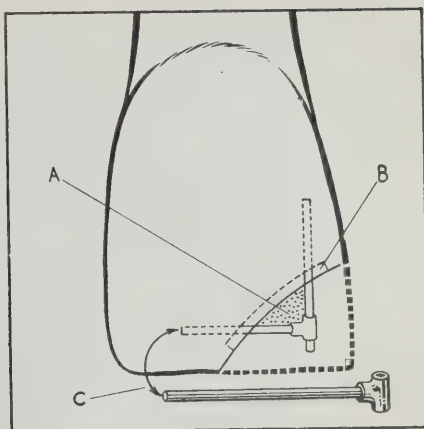


Figure 6.

- A—False core built up of cement.
- B—Trough cut in dentine at foot of false core.
- C—Incisal post with sleeve.

duct, overage under maintained pressure during polymerization is absolutely necessary. This results in fins (of the processed overage) extending from the margins of the inlay taking the direction of the surface of the investment. It is therefore imperative that in the direct wax-up, the pattern be extended to include the cuspal planes, thereby going beyond the true margins of the cavity on the occlusal. This procedure creates false margins beyond the true margins of the cavity. (Fig. 7-1.) Failure to overextend the wax pattern on Class V and on the occlusal of Class I and II cavities will result in failure of the finished inlay to seat. (Fig. 7-2.)

Another misadventure wherein cause and effect are often misunderstood is the loosening or displacement of compound inlays, such as M.O.D.'s, D.O.'s and M.O.'s and occasionally even Class V's (facials).

The irony of the complaint is that the true cause is hidden in the description of the mishap. Our colleague would say the inlay *sprung* loose. A proper consideration of the physical

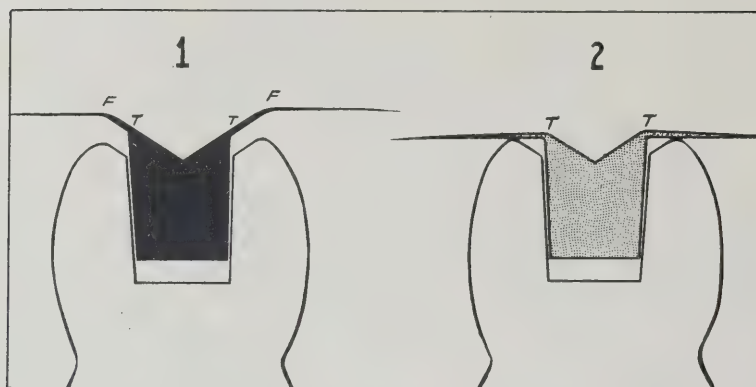


Figure 7

Inlay in diagram 1, will seat readily when finished, because *fins* only begin at FF, which are the false margins on the over-extended wax pattern.

Inlay in diagram 2, will not seat because fins begin at T, the true cavity margin, interfere with seating.

properties of methyl methacrylate, and the forces to which the material must, of necessity, be subjected, would readily suggest the proper procedure to follow. Enameloid acrylic is definitely practical for M.O.D. or M.O. inlays.

A six-inch cube of steel is elastic. But should this same steel be in the form of a solenoid or coil, then it is a veritable symbol of flexibility. The added margin of flexibility is due to its more flexural form. It allows distortion which imparts spring potential. This potential must eventually neutralize itself.

Enameloid acrylic in the form of an M.O. or M.O.D. is in the same situation as the solenoid. It also has a greater margin of flexibility due to its form. This is a factor with which we must reckon. If no special provision is made to control a perfectly reproduced M.O.D. inlay during cementation, the inlay (due to its flexible form) will be seated in a sprung state on a series of cement inclined planes. This means a spring potential is stored up in the inlay which eventually displaces it. To prevent this we observe four important steps:

1. The mesial or distal gingival floor is sloped apically from the cavo-surface

line angle to the gingivo-axial line angle. (Fig. 2).

2. Guide-grooves are cut in buccal and lingual walls at bucco-axial and linguo-axial line angles. (Fig. 1. G.G.G.G.).

3. Place celluloid strips from the subgingival root face to, but not beyond, the contact point and wedge (with a wooden wedge) the celluloid strip against the cavo-surface angle at the gingival. (Fig. 2 C.C.W.). These strips and wedges are set, and the inlay is tried in to make sure it seats perfectly.

4. Use a fairly thin mix of cement and in seating the inlay apply pressure only on the marginal ridges. Deliberately avoid pressure on any part of the occlusal surface. This is easily accomplished with one- and one-half-inch lengths of cotton-wood sticks placed bucco-lingually, so that a diagonal of the cross-section of the wood would coincide with the interproximal space. (Fig. 2 CW).

A bulky M.O.D.—box-type preparation, no slices, no bevels, no narrow isthmuses with the above four rules observed, will give permanently satisfactory results.

Do not use all-acrylic inlays as abut-

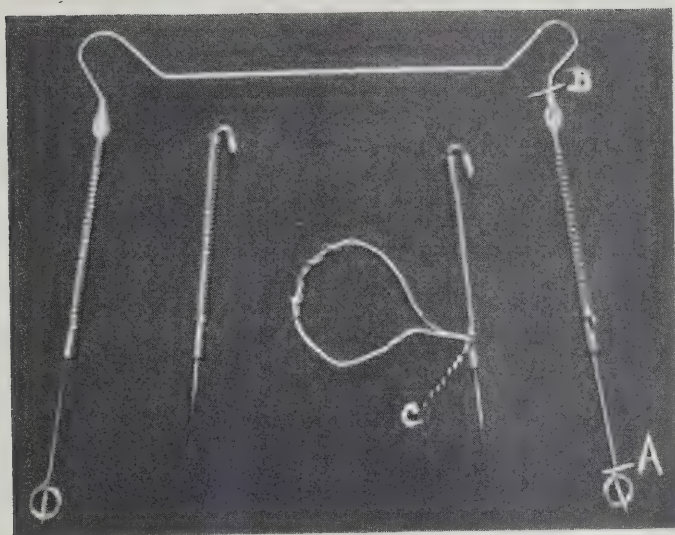


Figure 8

Special instrument for handling wax patterns. (See text.)

ments to carry pontics. The author's technique for an acrylic veneered gold inlay that can be used as an abutment for bridgework will be described at the end of the chapter on inlays.

INLAY PATTERNS

In the indirect technique the wax-up is invested with the Diolite model which usually reproduces the cuspal planes, thereby avoiding this form of possible failure.

The handling of the direct wax pattern during investment is facilitated by the use of a special instrument. These are easily made from the Spiffy Collar Stay, (Fig. 8) manufactured by the Crest Specialty Co. of Chicago, Illinois, U.S.A. From each Collar Stay costing 12 to 15 cents you can make two such instruments. Simply cut off the spring section at B, Figure 8, and remove the loop at A, Figure 8, sharpen and polish the point of the instrument, at A, attach a wire finger loop through the small loop at C, Fig. 8, for control.

The direct pattern is removed from the tooth with any old rough tipped

explorer or a U-shaped paper clip, in the case of M.O.D.'s. After removing the pattern from the tooth, carefully examine all the margins. Do not use any pattern that fails to show sharp line angles between pulpal floor, axial wall, and the other walls of the cavity. The same applies to the gingival floor and its line angle boundaries. It is poor policy to cheapen your own efforts by accepting a poor pattern and hoping for good results.

The direct wax pattern is next released by grasping the U-wire or explorer with a pair of hot-tipped college pliers, allowing the wax pattern to drop a very short distance onto a soft cloth. Then heat the tip of the special instrument described and with the pattern lying on the work table, apply the hot instrument at any point on the occlusal and hold it steady until the wax solidifies. This is best done by supporting the special instrument in a pen grip, resting the heel of the hand on the table.

INVESTMENT

Diolite, setting time approximately 15 minutes, is used for investment.

Make small investment rings by cutting old (film) negatives into strips 10 x 64 mm and closing the ring with Scotch tape, lapping the film strip for about 5 mm. This will give you a ring about 20 mm. in diameter. The small amount of Diolite needed to fill this ring is mixed on a glass slab with a cement spatula to heavy cream consistency. The ring is filled and then all under surfaces of the wax pattern and the under surfaces of all occlusal margins are painted carefully with the Diolite investment (using a fine sable brush). The interproximals of M.O.'s, D.O.'s, and M.O.D.'s, are completely painted as they are to be submerged in the investment. The inlay pattern is next inserted in the soft investment in the ring with the occlusal parallel to the investment surface. The special instrument is compressed, displacing the wax pattern. The upper surfaces of the margins should not be covered by investment, but should rather be continuous with the surface of the investment. When set the (film) ring is stripped off and set aside for future use. The Diolite cylinder with invested pattern is, in turn, invested in plaster of paris in the lower half of a flask. When set the counter is poured in plaster of Paris. When this sets, open the flask, *cold*. Place the lower half of the flask in boiling water, allow to boil for five minutes, then using the boiling water as a flushing medium thoroughly flush out all wax. A water syringe or a chip blower gives a force adequate to thoroughly de-wax your case. But if you detect any resinous wax residue use carbon tetrachloride as a solvent and then boil again for five minutes and flush again. Do not use chloroform under any circumstance as it is a solvent for acrylic, and will cause complications.

INDIRECT PATTERNS

The indirect inlay technique is the same as for gold inlays, i. e., use either modelling compound plus Hydro-colloid or just modelling compound, which

ever gives you an accurate undragged impression of the cavity. Here again, you should employ matrix strip and wooden wedge to get the interproximal section of class II cavities.

The use of Diolite for dies is recommended. Vibrate for best results. The Diolite die is waxed-up as you would like the inlay to be when finished, carving your grooves and building out your contact points. Use a bite and articulate, if necessary, to obtain the desired results. Do not lubricate the die because you are going to invest the die plus the wax pattern. Invest the die plus pattern, in the lower half of the flask so that the occlusal surface is continuous with the surface of the plaster. From this point you proceed as you would with the direct technique.

THE VENEERED GOLD INLAY

The cavity preparation for a veneered gold inlay is the same as for all-acrylic inlays except that you may have an anchor-pit in the dovetail section of the pulpal floor if needed for additional retention.

The method of obtaining a skeleton inlay of cast gold is as follows: An indirect Diolite die of the cavity is employed in this technique. The die should be immersed in neat's-foot oil or 3-in-1 oil, to harden the die and prevent sticking of the pattern wax. An old-style all-metal hypo syringe with a long hub having a lumen of about 20 B&S gauge is used. The syringe is filled with sprue gun wax, and the barrel is heated slowly and evenly until you can force a wire-like form of wax steadily from the tip. You should perfect yourself in handling of this phase, so that you will get an even, well formed wax wire emitted at the tip. Or you may dispense with the syringe by buying ready made wax-wire forms or shapes of 20 B&S gauge. Fix the well oiled Diolite die of the cavity in a heavy platform of plaster of Paris, so as to have both hands free for placing the wax wire in position. First, lay down an outline of the pulpal

floor along the pulpal line angles, then cross-tie with a few spurs of wax. Next bring a few uprights along the buccal and lingual walls, giving special consideration to pulpo-buccal and pulpo-lingual line angles and any of the walls which will resist the displacement of the finished product. Then run a wax wire along all side walls about half way up, tying all uprights together. During all these various steps of procedure stop long enough to key the wax segments together with a hot explorer tip and a minimum of wax. Next, put several cross-ties from side wall to side wall, half way up from the pulpal floor to the occlusal. The skeletal form resulting should look something like a space lattice. (Figs. 9, 10, 11). Then three heavier (14 gauge) wax sprues are placed and waxed mesio-distally to extend into the pontic space. This pattern should be cast in hard gold and returned to the patient's tooth for try-in. It is then used as an abutment unit in the bridge



Figure 9

construction; and the rest of the inlay wax-up is done at the time of the pontic wax-up.



Figure 10

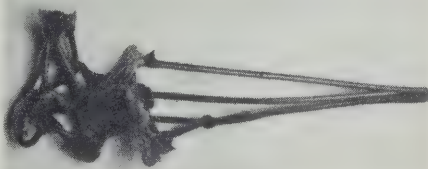


Figure 11

SIZING AND SEALING OF MOULDS

(1) General Considerations

The mass of (plastic) acrylic contains excess monomer which diffuses readily into the surrounding porous walls of the mould. This monomer penetrates into the plaster and is polymerized beyond the mould boundaries, causing oversized inlays and undersized jacket crowns.

The above will not occur if the mould is properly sealed. A surface sealer is used, which gives a glass-like surface of uniform thickness and prevents the monomer from leaving the limited dimensions of the mould. Sodium silicate is used for this purpose. But, as is the case with the most expensive paint when used on a porous, unsized wall, the surfacer will not seal safely but cracks and wafers off. Perfect sealing of the mould, therefore, is made possible by the first of the two following solutions, known as the sizing solution, (Solution No. 1.). This penetrates deeply into the porous mould and later bonds with the more viscous surface sealer solution (Solution No.2). It is an entirely efficient substitute for tin foiling.

(2) Sizing and Sealing Technique

The following technique will give you clean inlays, jacket crowns, etc., free from adherent plaster or other invest-

ment material. The sealer is applied after the case is entirely wax-free, hot or cold.

Step No. 1. . . Using a small fine quality sable hair brush, paint the inside surfaces of the mould thoroughly with solution No. 1. This breaks the surface tension of the liquid. Then immerse the lower half of the flask in solution No. 1 for ten minutes. This acts as a sizing solution, penetrating into the pores of the investment and later bonding with the more viscid surface sealer. Remove from the solution and blow thoroughly dry.

Step No. 2. . . Paint the inner surfaces of the mould and an area around the lumen of the mould, with solution No. 2.; let stand for five minutes; then take up all excess with a dry sable hair brush, carefully, dipping into the line angles of the mould, using the brush as you would bibulous paper or any other capillary means of absorbing excess liquid. When all excess solution No. 2. has been removed, allow the case to dry for five to ten minutes. DO NOT BLOW DRY.

SOLUTION NUMBER ONE

One part of sodium Silicate (Specific Gravity 1,380) to ten parts of water. To thirty-three ounces of this 10:1 mixture add one dram of Aerosol O. T. 1/1000. This lowers the surface tension and gives more perfect penetration of the sizing solution.

SOLUTION NUMBER TWO

Two parts of Sodium Silicate (Specific Gravity 1,380) to one part of water. This gives a glass-like sealing coat to the mould 1/1000 of an inch thick, a proper minimal thickness for cement film.

PACKING AND FINISHING

(1) Principles of Packing

Before you pack your case, determine what shade of acrylic you are to use. Then, using ointment jars as mixing jars, and stainless steel or stellite instruments for mixing and packing, you

are ready to go ahead. This work should be done in a room which is dust free.

Be warned that indiscriminate use of monomer causes many defects in acrylic technique, the most unsuspected of which is the upset of colour control.

The structural set-up of the powder is a collection of various sized spheres of methyl methacrylate, plus filler, plus colours. This may be considered analogous to a box of clear marbles, plus flour, plus colours in a uniform mixture. If a liquid is dropped onto this mixture, the flour and colours would be washed to the deepest recesses between the marbles. That is what happens to the acrylic powder when the liquid (monomer) is used similarly. Use of the monomer must be judicial, so as to avoid flushing about of fillers and colours. There is a method of control, however; it is this:

The monomer is a slow solvent for the spheres of the polymer (methyl methacrylate) in the powder, thereby acting as a plasticizer, softening the surfaces of the spheres. If the monomer is added to the powder in a mixing jar, allowed to plasticize and then is thoroughly mixed: the filler and colours will adhere to the softened surfaces of the spheres, thereby producing a homogeneous mix.

MIXING AND PACKING

In a ½ ounce glass mixing jar place a sufficient amount of the selected shade of powder. The proper ratio of powder to liquid is attained by "capillary saturation". The landmark or index of capillary saturation is the "wet sand stage". Proceed as follows: to the powder in the mixing jar, add monomer one drop at a time watching the moisture spread to the periphery of the powder by capillarity. Keep adding monomer, one minim at a time until every granule of the powder in the jar is wet. This is the "wet sand stage", and is recognizable by its similarity to the wet sand on the beach when the surf recedes; inert, wet sand.

At this stage a single additional drop of monomer is added, no matter how much or little of powder is used, one drop of monomer is added to the "wet sand stage" of the mix to allow for evaporation. This single drop produces a change in the appearance of the mix, from that of wet "inert" sand to an active "mobile" semi-fluid mass. Close the jar immediately and allow the jar to stand for one minute. This permits the monomer to plasticize or soften the spheres of methyl methacrylate in the powder. Open the jar, mix quickly and thoroughly, and you will have a smooth creamy mass which holds the colour distribution evenly. Pack your case with this creamy mix, buttering a small amount into the deeper recesses of the mould first, and jarring the flask against the bench top will settle the creamy mix in the mould to give the appearance of supernatant fluidity. Add more of the mix until the mould is well overpacked, in the form of a nob-like mound over the lumen of the mould. The mass in the mould should be moist enough to pack easily, not dry on your instrument, nor should it appear granular. After packing, the case is allowed to stand a few minutes, and when you notice the parchment-like surface on the mound of overpacked acrylic, you are ready to test your case. Place a wet sheet of hydrophilic cellophane over the lower half of the flask, superimposing the upper half and pressing in a compensating

press for a few minutes. Open the flask, wet the cellophane, to prevent dragging the acrylic, and examine, if insufficient add more. Trim off all excess that interposes between the halves of the flask, as this material acts as a shim or washer and neutralizes the necessary overpack pressure over the lumen of the mould. When satisfied, place a fresh piece of cellophane as before, and process with the cellophane in place. A compensating press should be used. Place in water at room temperature and a uniform run up to boiling point in half an hour, and maintain at boiling point for twenty minutes. To cool the processed case:—Without releasing pressure on flask, set in running cold water for ten minutes. To remove inlay from Diolite cylinder, groove along the underside of the cylinder with a separating disc or plaster saw, following the best line of cleavage. The Diolite will chip away clean but Sodium Citrate (saturated solution) will help by dissolving any investment around the margins etc., place the inlay in the sodium citrate solution for half an hour, then brush off with lukewarm water and a tooth brush.

Final finishing of inlays is best done in the tooth after cementation. Trimming is done with very sharp burs (inverted cone No. 41) and stones, and polishing with Magic Denture Paste on a soft wheel brush (Robinson's No. 11—soft). 114-06 Queens Boulevard

Change of Address

Notice of change of address should reach the Secretary's Office before the first of the month in which the change is to take effect. Please furnish old as well as new address.

Members in the Military Services may have the Journal sent to home address or military address as desired. If the Journal is to follow you it will, of course, be necessary to keep the office posted about address changes.

In all cases, the former address should be given.

Address all communications to:—

*Secretary,
Canadian Dental Association,
211 Huron St., Toronto, Ontario.*

Keep The Record Straight

By KENNETH M. JOHNSON, D.D.S.,
Winnipeg, Manitoba

TODAY when dentistry is under very close scrutiny by the public at large and by those who will frame the new National Health legislation, it is important that we, as dentists, understand our own position and clarify our own thoughts in the matter. It is quite possible to train skillful technicians to do many dental operations and to do them very well. It may be that in the interest of economy it is advisable to do so, but it should only be done after establishing that the ultimate effect will be beneficial to National Health and not merely to a few individuals and that (ultimately) it will not jeopardize the health of the people. There is an unfortunate tendency at the present time to belittle the great health service being rendered by the dental profession especially in the prosthetic field and attempting to place it entirely in the hands of technicians. This is the result of a confusion of thought on the part of several leaders. We will all agree that in the Utopia to which we are working we shall be able to prevent conditions requiring restorative dentistry.

Research may and some day will lead to that happy state but to base our present requirements on the premise that it is now here is to ignore practical considerations. The result will be disastrous to say the least.

Preventive dentistry as we are now able to practise it, with our present limited knowledge of the cause or causes of dental caries is an important part of the field of dentistry but

it is only a part. Research is extremely valuable and leads to advancement in all fields of dentistry but again it is only a part of the whole field. In considering what dentistry has to offer in the great National Health effort we cannot ignore the fact that the major benefit which we now have is dental treatment as it is practised by the great majority of the profession today.

It is as if we were to suggest that the sick are not to be treated but rather only studied in order that we may prevent future illness if and when we learn how.

Dental treatment is still the most important part of National Dental Service whether it be operative, surgical, orthodontic, periodontic, or prosthetic.

Another point which all dentists should bear in mind in discussing state health measures with the laity and among themselves is the improper use of the word "free." So often we read in newspaper articles that the health services, which are to be included in the proposed Compulsory Health Insurance program, are to be given "free", but this is not correct. They will have to be paid for by the participant through various forms of taxation. It would be much more accurate to say "at state expense" and "state expense" is the expense of the individual citizen.

Dental Service is something of real value and cannot be obtained "free."

314 Somerset Building

Next to knowing when to seize an opportunity, the most important thing in life is to know when to forgo an advantage.—Disraeli.

The Forum

• AN EVALUATION OF THE SULPHA DRUG AND OTHER DRESSINGS IN "DRY SOCKET" IN LOWER THIRD MOLARS

by JERRY A. MILLHON, D.D.S.; LOUIE T. AUSTIN, D.D.S.; EDWARD C. STAFNE, D.D.S., and BOYD S. GARDNER, D.D.S., Rochester, Minn.

Condensed from Jour. of A.D.A., Dec. 1, 1943

A CONSIDERABLE amount of clinical work has been done with the various sulphonamide drugs, especially in their application to the tooth socket after operation.

Several trial materials were used in the lower third molar sockets after operation. Results from the use of 5 per cent and of 20 per cent sulphathiazole in a water-soluble base were unsatisfactory and it was soon discontinued. Because 60 per cent sulphathiazole in petrolatum had proved quite satisfactory, we again attempted to use this concentration of sulphathiazole, except that a glycerine base was employed in place of the petrolatum. Later, metaphen 1:5,000 and benzyl alcohol were added.

This material seemingly possesses most of the qualities that we require. Its putty-like consistency permits it to shape itself to the socket when placed in the cavity. Apparently, it retains its form a desirable length of time when enclosed in the socket, with the result that the size of the clot is reduced and the sulphathiazole acts to inhibit the action of the oral flora in the socket wound.

One of its greatest advantages, from our standpoint, is the fact that this material can be enclosed in the socket wound, since both the drug and the vehicle are capable of being absorbed by tissue fluids.

In the series in which 60 per cent sulphathiazole incorporated in a sterile petrolatum base was used, the incidence of dry socket was reduced to

about half that of the control group. In the series in which sterile petrolatum alone was used, the rate was reduced to only about three-fourths that of the control group. In the series in which the 60 per cent sulphathiazole in a glycerine base was used, the rate was reduced to about one-fifth that of the control group.

In a series of 961 normal extractions throughout the mouth, we found three cases of dry socket, all in the lower molar region. Also, fifty-one cases of dry socket followed the removal of 304 impacted lower third molars in which no dressings were used. Especially from the former series, it is evident that so-called dry socket is more apt to occur in the lower molar region.

The statement is often made that "dressings promote healing." This may be true, but with some qualifications. We feel that dressings promote healing only because they are an added protection to the vulnerable clot, and this added protection allows organization of the clot to progress without interference from organisms in the mouth. More important is the fact that dressings when placed in a socket displace blood from the central portion of that socket. This reduces the size of the clot, and the nourishment, or blood supply, from the surrounding bone can in most instances better maintain the vitality of a small clot. This is demonstrated by the effectiveness with which various types of dressings in the sockets act to decrease the incidence of dry socket in these cases as compared with those cases in which no dressings were used. While it has been possible to show a very low incidence of dry socket in those cases in which sulphathiazole in a glycerine base was used in the lower third molar sockets, we are of the opinion that the sul-

phathiazole alone does not prevent dry socket. Of equal importance is the mechanical action of this dressing in reducing the size of the clot when blood is displaced from the central portion of the socket. This small blood clot needs less time to organize than a larger clot requires. With this in mind, it cannot be emphasized too strongly that we cannot avoid by the use of sulphonamides, those disagreeable results that would be expected to follow a careless surgical technique.

We have not found sulphathiazole of value in the treatment of dry socket, once symptoms have developed.

After the removal of cysts from the jaws, we have used only sulphathiazole powder, and rather sparingly. When used in such quantities as would be necessary in a cavity produced by removal of a cyst, it often is poorly absorbed and has a tendency to cake, thus becoming a foreign body, healing failing to progress normally until the material is removed. In these conditions, we commonly make use of an atomizer to insufflate the cyst cavity with a small amount of sulphathiazole powder. One of the gauze dressings is then placed fairly loosely in the cyst cavity, being removed later as described in a previous paragraph.

In a complete upper or lower alveolectomy, or extraction of impacted upper teeth, we prefer sulphathiazole in powder form, blown, by means of an atomizer, over the exposed bone and under the mucoperiosteum that has been retracted. This is done just before the soft tissues are approximated and sutured. While no comparative results can be presented, we feel that our results favour this procedure.

Sulphathiazole, when placed in an open socket wound, can be kept in position by a small moist gauze sponge placed over the socket wound and by pressure exerted by the patient in biting down on the gauze sponge fifteen or twenty minutes before it is removed.

• WHAT THE GENERAL PRACTITIONER SHOULD KNOW ABOUT THE CHEMOTHERAPY OF BACTERIAL INFECTIONS

by EDWIN E. OSGOOD, M.D., Portland, Ore.

From the Division of Experimental Medicine, Department of Medicine, University of Oregon Medical School, Portland, Oregon.

Excerpts from paper in Can. Med. Jour., Jan., 1944

SUGGESTIONS will be limited to sulphanimide, sulphayridine, sulphadiazine, sulphathiazole, succinylsulphathiazole (sulphasuxidine), and neoarsphenamine, since sulphamerazine and penicillin, which offer promise for the future, are not yet available for general use.

Institution of therapy with one of these drugs is indicated when clinical and, ideally, as soon thereafter as practicable, bacteriological diagnosis indicates that the disease process is due to an organism which is susceptible to the action of the drug; and when the disease has a morbidity and mortality greater than that which is to be expected from the drug under the circumstances in which the drug is to be used.

These drugs are ineffective against the majority of virus infections, including all the common virus infections of the respiratory tract, so their systemic use is contraindicated in the common cold, simple pharyngitis, influenza, and the virus pneumonias, unless more serious bacterial complications threaten or are present. They are not effective against the tubercle bacillus or fungous infections, so they are contraindicated unless secondary infection has occurred or is threatened.

Chemotherapy is of value in the treatment of most bacterial infections not due to acid-fast organisms, but chemotherapeutic agents should not be given for minor infections which carry little morbidity and less than 1 per cent mortality.

Local use of one of these drugs is specifically indicated whenever an accessible local collection of large num-

bers of the pyogenic organisms is known to exist and, prophylactically, when such a local collection of pyogenic organisms is likely to occur. Potentially infected local areas include all tooth sockets after extractions.

In no case should the institution of chemotherapy justify neglect of other phases of medical management, such as proper placing, nursing care, the administration of oxygen, adequate fluid intake, adequate caloric intake, symptomatic therapy, other specific therapy, necessary surgery, or consultation. If the patient is not sick enough to justify such care he is not sick enough to justify the use of chemotherapy.

Sulphathiazole would appear to be the drug of choice for systemic therapy of all serious bacterial infections, when it can be so administered as to attain an adequate concentration of 4 to 8 mgm. per 100 c.c. at the site of the infection.

The death rates in the better institutions from any one of the four commonly used sulphonamides used systemically lie somewhere between one per five hundred and one per two thousand patients treated, which is far higher than that from a general anaesthetic with ether, and considerably lower than the death rate to be expected when the precautions taken in such institutions are not observed. Deaths may result either early or late in the course of therapy and with small doses of the drug, but they are more likely to occur in the period between one week and one month and with the larger doses or when the drug has been discontinued for a few days or weeks and is then readministered. Once a toxic reaction has occurred from administration of a particular drug it is very likely to recur on subsequent administration of the same drug.

Neoarsphenamine, when administered in the recommended manner, may produce any of the toxic effects

produced by the sulphonamide drugs. Toxicity with any of these drugs depends more on the individual idiosyncrasy than on the dose. At present there seems to be no reliable method for determining which patients will develop toxicity and which will not.

No patient receiving systemic sulphonamide therapy should be allowed to drive a car, operate machines, or make important decisions, because of the mental confusion and visual disturbances which often develop.

Sulphanilamide is so much less effective than the other sulphonamide drugs, even in beta. haemolytic streptococcal infections, that there seems to be no reason for further systemic use of this drug.

The drug of choice for local use is sulphathiazole.

Sodium sulphathiazole is not recommended for local use because of its alkalinity.

• CLINICAL STUDY OF LOCAL IMPLANTATION OF SULPHONAMIDE COMPOUNDS IN ORAL SURGICAL WOUNDS

by DACOSTA CLARK, D.M.D.
Conclusions of Paper in Northwestern Univ. Bul.
Dec. 1943

1. The local implantation of sulphanilamide and sulphathiazole in oral surgical wounds moderated the postoperative discomfort, irrespective of the degree of traumatism.

2. With the local use of these compounds the incidence of postoperative pain and swelling was markedly reduced.

3. Sulphathiazole seemed to be more efficacious than sulphanilamide in reducing the incidence of postoperative pain.

4. The postoperative condition of the extraction wounds at the various intervals studied was preferable in those cases which were treated with these compounds. The cases treated with sulphathiazole were slightly better than those treated with sulphanilamide.

5. There seems to be sufficient clin-

ical evidence in favour of these compounds to justify their local use in oral surgical wounds, especially in those cases of infection and excessive trauma.

6. There were no obvious toxic reactions which resulted from the local implantation of these sulphonamides.

• A LIFE SAVING SIGN

by F. GERARD ALLISON, B.A., M.D., M.R.C.P.
(London), Winnipeg, Manitoba

*From Manitoba Medical Review. Vol. 23, P. 261,
1943*

A FEW months ago a man with very mild mitral disease had some teeth out. He did not bother to mention his heart trouble to the dentist. He began to run a temperature about a week later and eventually developed clubbing, splenic enlargement, anaemia and a positive blood culture, i.e., subacute bacterial endocarditis.

This fatal disease might have been prevented if every dentist had a little sign on his office wall:

HEART DISEASE

Tooth extraction may cause blood poisoning in patients with valvular or congenital heart disease unless certain precautions are taken. Do not keep your heart disease a secret from your dentist.

This is the fourth such case seen by the writer in three years. The pre-

cautions recommended are: 1. Avoidance of extraction, if possible, by regular care of the teeth and gums. 2. Preoperative treatment of the gums. 3. Intravenous injection by a doctor of three grams of sulphapyridine immediately before the extraction. This compound is more lethal to viridans strains than other sulfa drugs (Am. J. Med. Sc. 1942, p. 577). If this is not possible, 45 grains of sulphapyridine by mouth three hours before extraction. 4. Dusting of sulphanilamide into the socket after extraction (no packing).

The normal transient viridans bacteremia after tooth extraction (Lancet 1935, 229 p. 869) is of no consequence except in patients with valvular or congenital heart disease where the streptococcus viridans is apt to find lodgment on the abnormal valves and defy all attempts at eviction. These cases are the more pathetic as it is the milder cases of valvular heart disease who are particularly subject to this infection. Tooth extraction is not the only exciting cause of this disease, but it must be the exciting cause of many hundreds of preventable deaths on this continent each year.

When a doctor is consulted by a patient with rheumatic or congenital heart disease one of his most important duties is to warn of the danger of tooth extraction.

A TRUE STORY

December 3, 1943.

Denco Alberta Ltd.,
Calgary, Alberta.

Dear Sirs:

I understand there is a shortage of dental material. So I wonder if I could sell the lower plate of a set of teeth. I got them a year ago, but have never used them. They were the

very latest in dental material at the time. Instead of the dark red gums like the old sets have, these are a rose pink. These teeth are pearly white. I paid \$80.00 for the complete set. If you are interested what would you offer?

Yours truly,
Mrs. X,
Acadia Valley, Alta.

This copy was made pursuant to the University of Toronto Fair Dealing Guidelines and the exceptions granted under Section 29 of the Copyright Act. The copy may only be used for the purpose of research, private study, criticism, review, news reporting, education, satire or parody, if the copy is used for the purpose of review, criticism or news reporting, the source and the name of the author must be mentioned. The use of this copy for any other purpose may require the permission of the copyright owner.



PRINCE EDWARD ISLAND



SASKATCHEWAN



Editor — M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S

D. T. Waye, Charlottetown

QUEBEC



E. M. Laurin, Montreal

ONTARIO



T. R. Marshall, Toronto

F. C. Harwood, Moose Jaw

NOVA SCOTIA



S. G. Ritchie, Halifax

ALBERTA



John Clay, Calgary

NEW BRUNSWICK



W. C. Carruthers, Saint John

MANITOBA



J. P. Morrison, Winnipeg

BRITISH COLUMBIA



H. M. Cline, Vancouver

Compulsory Health Insurance

One is often asked what is meant by Compulsory Health Insurance. One can take it to mean that it would be compulsory for every adult in our country to contribute to the plan, and no doubt it should involve the compulsory care of the mounths of all children. It is probably not practical to make the service compulsory for adults, but on the other hand, most adults would participate in the scheme if they were paying for the service and were trained from childhood as to its advantages.

The Canadian Medical Association has gone on record as favouring "Compulsory Health Insurance," under certain conditions, and why should not the Canadian Dental Association do likewise? It is more important to have a healthy nation than it is to have an educated one and we have a compulsory educational system. Furthermore, we can never hope to obtain a healthy race without some form of compulsion.

One can be certain also that some form of Compulsory Health Insurance is inevitable before long so why "kick against the pricks"? We are not likely to be entire masters of our own house. In the coming days what others elect to do will govern our own actions in many ways which we would not choose, if left to our own desires. One condition is whether or not we can afford Compulsory Health Insurance, or in other words will our national

economy permit of the granting of such service to the populace? One thing is certain and that is that the suggested \$3.60 *per caput* per year, will not provide adequate dental service to any of our groups.

The last suggestion emanating from prominent government circles in Manitoba was to the effect that children be taken care of in private offices on a *per caput* basis. Those children who are not located because no dentist will accept them are to be allocated, *pro rata*, among the dentists participating in the scheme. Under such conditions, one can imagine how extractions will be stepped up; how irregular permanent teeth will appear on every hand; how dissatisfaction will be the order of the day among all concerned. Of course dentists are opposed to this scheme and it remains to be seen what steps will be taken.

The other conditions is that dentistry will not be unduly hurt and that the average dentist will not be asked to make too great a sacrifice. One would hope that the status of the average dentist would be greatly improved under a properly organized system of Compulsory Health Insurance. Of course, the plan should be under the control of the profession and not made a political foot-ball.

It seems that some change in the present system of dental practice is inevitable, for the reason that people are beginning to demand dental service and rightly so, people who cannot afford service with the present dental set-up. The cost of rendering this service properly is beyond the reach of the lower income group. Even the great middle class, as a group, suffer from lack of proper dental care.

It is beside the point to say that these people spend more on tobacco, confectionery, jewellery, etc., than they do on medical and dental service. The fact is that they will continue to do so unless some form of compulsion is instituted and much education is given. In other words they may be able to afford professional care but they choose not to do so.

We are all agreed if Compulsory Health Insurance is adopted in Canada that dentistry should be included.

As to the question should everyone be included in the plan, or only those in certain low income groups, there is a great diversity of opinion. This writer believes that everyone, rich and poor alike, should be included, and that we should support this idea for several reasons:

(1) If the dividing line is placed say at \$2500.00, less than 10% of our Canadian people would be excluded, so not much would be gained.

(2) Take two married men, one with three children earning \$2600.00 and the other with no children earning \$2400.00. The first man has always worked hard and saved all he could, owns his own home and has accumulated some savings. He is not included in the insurance scheme. His wife is faced with an operation, his children have become sick and later he has a break in health himself, but no provision is made for him. His home and his savings are confiscated. The other man has never saved anything but spent all he earned and has a good time and lives in a rented house. Mis-

fortune overtakes him also but he is protected by the Insurance plan. This is so unequitable as to place a premium upon inefficiency and indifference.

(3) Under a means test, the difficulties of administration are increased tremendously as so many may be insurable this year and not next year or vice versa. Our Manitoba provincial hospital organization which would most naturally be called upon to operate such an undertaking has refused to have anything to do with a plan involving the means test.

(4) You may have many of those, who are not insured, in poor health and not receiving adequate medical or dental care, associating with those who are receiving care. This association may be to the detriment of the latter.

(5) With all children insured, the fact that those parents above a certain income level, would not be contributing to the scheme might cause dissatisfaction unless all people are forced to contribute regardless of income. If all do contribute, then it seems but fair that all should participate if they so desire. No doubt many would not wish to participate.

To the question should the State Dental Service be a full service or as limited a service as possible, I wish to go on record as favouring the latter. I believe in private practice because I believe that dentistry will advance faster and farther if we can preserve a large proportion of private practice, I am in favour of the state dental service being limited as much as is possible, limited to the minimum that will give a reasonably efficient masticating apparatus, free from infection and keeping in mind aesthetics to the point of not unduly lowering morale, and keeping in mind also that the determination of the need for dental service shall be the prerogative of the dentist. Of course, prevention should be the keynote of this service. Preventive orthodontia also should be given a prominent place. Everything possible should be done to reduce the amount of dental caries. We should have dental hygienists in Canada and prophylactic treatment should be carried on faithfully by this group. Educational efforts should be stepped up in which the hygienist would also be of great assistance. I believe that all gold work, bridges, jacket crowns, etc., should be delegated to private practice. If in the post-war period there still remains a large group of people who are well off financially after paying necessary taxes no doubt many of them will wish to have all their dental service rendered by the private practitioner regardless of what system is set up by the government.

Whatever action is taken, we may at least look for increased cooperation and more widespread training and education of our people, and the setting of higher objectives towards which society will aim.

This whole problem presents very great difficulties, but it is as Spurgeon said, "Many men owe the grandeur of their lives to their tremendous difficulties." We so often feel that dentistry is going to be seriously hurt by all these proposed changes but let us remember the cannon-ball which struck inside the fort in one of the battles of the Crimea. It crashed into a beautiful garden but from the ugly chasm, a spring of water burst forth which flowed ever afterwards as a living fountain.

SCHOOLMASTER ABROAD

Problems relative to the correction of traumatism.

Question:

"WELL, DOCTOR, WON'T GRINDING RUIN MY TEETH AND CAUSE CAVITIES TO DEVELOP?"

Answer:

By Dr. Sidney Sorrin of New York City, Assistant Professor of Periodontia, New York University College of Dentistry; Chief of Periodontia Clinic, Midtown Hospital, Attending Periodontist, Sydenham Hospital; Periodontist, Montefiore Hospital.

No, the purposes of grinding are many. Perhaps the most important is to assist Nature to wear down the teeth. If the teeth are not worn naturally, it becomes necessary to grind those teeth which have not worn in harmony with others. The teeth should function in such manner, that no matter what position the lower jaw assumes the maximum number of teeth will be in simultaneous contact.

If, for example, four men are lifting a board, and there are three men in one corner and one man in the other corner, the one man will have to assume all the load. In the mouth the same applies if the stress of mastication can be applied to many teeth instead of one tooth. If the load is assumed by one tooth (where many teeth should distribute the load) two things happen—either the tooth becomes loose or the tooth will wear abnormally in an endeavour to assume the load. Just as a drop of water will cause a crack in a stone, so will excessive stresses on teeth cause these teeth, in time to loosen. It becomes important to grind the unworn teeth so that they may harmonize with other teeth.

DOES GRINDING MAKE THE TEETH SENSITIVE?

Not as a rule. One must be guided by the amount of the tooth structure which must be removed to secure desired results. However, in some instances, sensitiveness may occur, lasting for a short period of time and disappearing after a few days. Should it continue, formalin may be rubbed into the sensitive area.

DOES GRINDING CAUSE CAVITIES TO DEVELOP?

No. The surfaces which are ground are made smooth. Cavities definitely do not result. On the contrary, after food impaction areas are relieved, cavities are prevented from forming.

DOES GRINDING DULL THE TEETH?

No. As a matter of fact, by scientific grinding, we establish a relationship which causes more efficient mastication.

Question:

SHOULD TEETH BE EXTRACTED IN THE PRESENCE OF ACUTE INFLAMMATION AND SWELLING?

Answer:

Taken from the paper on "Osteomyelitis of the Jaws" by Carl W. Waldron, M.D., D.D.S., Minneapolis, Minnesota.—(Journal of Oral Surgery, October, 1943).

In the early stage of an acute periapical infection, there may be present a slight swelling of the tissues overlying the jaw that is merely a slight lymphatic edema without demonstrable swelling or induration of the periosteum. In my experience, prompt extraction at this stage under general anaesthesia has not been followed by any serious post-operative complications. Sulphadiazine or sulphathiazole should be administered about four hours before extraction. If examination shows a definite periostitis with extra periosteal cellulitis and inflammatory induration, extraction of the offending tooth should be delayed, as it would open up the vessels of certain normal portions of the tooth socket to the pathogenic organisms from the root-end or gingival area. Furthermore, the extraction of the tooth does not provide adequate drainage of that portion of the infective process that has extended through the bone to involve the periosteum and extraperiosteal cellular tissues. The treatment should be directed toward localizing the suppurative process and providing drainage. This may be accomplished by frequent moist spot heating applied externally or hot spot irrigation with hypertonic salt solution intra-orally, depending on the

localization of the extraperiosteal infection. Central softening or fluctuation is usually demonstrable within two or three days, and careful incision by the Hilton method usually results in drainage and subsidence of the swelling and the relief of symptoms. During this period, anodynes and sedatives should be administered to relieve or reduce the pain and discomfort. The advisability of employing sulphonamide therapy by the administration of sulphanilamide, sulphapyradine, sulphadiazine or sulphathiazole is now sufficiently established to suggest its frequent use by members of the dental profession either systemically or locally in tooth sockets or other infected areas. Intelligent systemic administration is dependent on precise bacteriologic data and a knowledge of the absorption and excretion of these drugs. A constant concentration of the drug in the blood is essential to the maintenance of its bacteriostatic therapeutic activity, which is independent of the immune mechanism of the body. Toxic symptoms due to the drugs may be alarming and serious and it would seem necessary that any prolonged administration should be under the direction of a skilled physician. Furthermore, these drugs are of doubtful value in well-established localized staphylococcal lesions such as carbuncles or abscesses, or in osteomyelitis. In severe cases, the use of these drugs may prevent the spread of the infection to healthy tissues and may maintain a sterile blood stream.

Research in sulphonamide therapy for various conditions is being intensively carried out in many universities and we may expect further valuable contributions to our methods of combating and controlling infection. Some of the authorities on this subject are of the opinion that these drugs will prove to be of great value in the field of prevention of the spread of infection. Therefore, I should recommend, in cases of acute infective periapical pericementitis, the administration of 30 grains of sulphathiazole or sulphadiazine, which will assure an adequate blood concentration in four hours. At this time, the extraction of the tooth becomes a much safer procedure in the event the pathogenic micro-organisms are of a more virulent type. Four or five additional doses of 15 grains at

four-hour intervals should be given after the extraction. Toxic manifestations of sulphonamide therapy such as nausea, vomiting, dermatitis, drug fever and hematuria are not likely to occur as a result of the administration of this amount of the drug. Elliot's research demonstrated that blood infection occurs in approximately 70 per cent of cases of multiple extraction of teeth with gingival and periodontal disease, and in 34 per cent of cases when three or more teeth are extracted in the absence of detectable gum disease. Fortunately, such blood infections are usually transient and have no demonstrable ill-effects. Some preexisting abnormality may render an organ or a tissue, such as a joint or the heart valves, liable to infection after extraction. This research emphasizes the necessity of dentists giving greater attention to these problems and establishes the advisability of pre-operative sulphonamide therapy in acute or subacute dental infections. The local application of sulphanilamide powder to the tooth socket is apparently of service, although reports concerning its usefulness are conflicting.

Many reports were published during 1942 and 1943 on the clinical use of penicillin in serious infections and in infections in bone. This is best administered in seriously ill patients by means of a constant intravenous drip, which seems to be more effective than any other method of treatment for severe acute infections caused by *Staphylococcus aureus* and *Streptococcus pyogenes*, such as may be found in acute fulminating osteomyelitis, cellulitis and bacteremia. In less acute and chronic cases, sterile penicillin (the filtrate) is suitable for local application in infected wounds, and for irrigation of sinuses. It is soluble in water, penetrates tissue and is neither toxic nor irritating to mucous membranes.

Fortunately, its local use in subacute and chronic conditions requires but a small fraction of the amount necessary for intravenous or intramuscular therapy in gravely ill patients.

The limited quantity of penicillin now being produced is reserved for research and for the Armed Forces. It will probably not be available for general use until after the war and then only if research into its complex structure makes its synthetic production possible at a reasonable cost. It has been stated that if

this is accomplished, sulphonamides may disappear from use. The use of penicillin at present for moderate infections and those that readily respond to other antibacterial agents would seem wasteful.

Within a period of a week after incision and drainage, the local and systemic condi-

tion will usually be sufficiently improved to permit extraction of the infected tooth with but little danger of acute osteomyelitis. By this time, the imbalance between the virulence of the infection and the resistance of the patient will usually have become reestablished in the patient's favour.

DENTAL CORPS NEWS

SUPPLEMENTARY LIST CANADIAN DENTAL CORPS OFFICERS AS OF JANUARY 31, 1944

12th Statement

APPOINTMENTS

Rank, Name and Date	Civilian Address
Lieut. S. Chernin, 21-12-43.	Glace Bay, N.S.
Lieut. K. N. Morrison, 21-12-43.	Guelph, Ont.
Lieut. G. A. Graham, 21-12-43.	Richmond Hill, Ont.
Lieut. J. Witchell, 21-12-43.	Sudbury, Ont.
Lieut. W. B. Malloch, 21-12-43.	Niagara Falls, Ont.
Lieut. J. G. Woods, 21-12-43.	Watford, Ont.
Lieut. D. M. Wallace, 21-12-43.	Windsor, Ont.
Lieut. N. A. Butcher, 21-12-43.	Melanchon, Ont.
Lieut. L. R. Channel, 21-12-43.	St. Catharines, Ont.
Lieut. W. V. Ferguson, 21-12-43.	Lindsay, Ont.
Lieut. J. C. Cummings, 21-12-43.	Ottawa, Ont.
Lt. (A/Capt.) S. W. Kemp, 3-1-44.	Ottawa, Ont.
Lieut. R. O. Green, 21-12-43.	Toronto, Ont.
Lieut. E. B. Hooks, 21-12-43.	Toronto, Ont.
Lieut. J. B. Taylor, 21-12-43.	Toronto, Ont.
Lieut. L. M. Sussman, 21-12-43.	Toronto, Ont.
Lieut. J. A. Wilson, 21-12-43.	Toronto, Ont.
Lieut. W. S. Porteous, 21-12-43.	Toronto, Ont.
Lieut. N. B. Sproul, 2-12-43.	Toronto, Ont.
Lieut. M. M. Samuels, 21-12-43.	Toronto, Ont.

Lieut. E. J. Tureck, 21-12-43.	Toronto, Ont.
Lieut. J. N. Wills, 21-12-43.	Rideau Ferry, Ont.
Lieut. S. Margolese, 21-12-43.	Winnipeg, Man.
Lieut. S. Katz, 21-12-43.	Winnipeg, Man.
Lieut. A. Malkin, 21-12-43.	Winnipeg, Man.
Lieut. W. T. Beatty, 21-12-43.	Swift Current, Sask.
Lieut. W. A. Quigley, 21-12-43.	Calgary, Alta.
Lt. (A/Capt.) N. B. Moss, 3-1-44.	Calgary, Alta.
Lieut. H. B. Johnson, 3-1-44.	Calgary, Alta.
Lieut. C. E. Craig, 21-12-43.	Vancouver, B.C.

RETIREMENTS

Rank, Name and Date	Civilian Address
Capt. J. D. A. P. Lalonde, 28-12-43.	Verdun, P.Q.
Capt. N. F. Dinning, 15-12-43.	Sherbrooke, Que.
Capt. R. R. Hudgins, 20-12-43.	Kingsville, Ont.
Capt. T. C. Trotter, 9-12-43.	Toronto, Ont.
Capt. C. S. Gilbert, 21-11-43.	Newmarket, Ont.
Capt. R. E. Feasby, 27-12-43.	Toronto, Ont.
Capt. A. Wynne-Jones, 20-1-44.	Sarnia, Ont.
Capt. T. R. Allen, 12-1-44.	Winnipeg, Man.
Capt. L. Finkle, 20-1-44.	Carberry, Man.
Lt.-Col. A. G. Smith, 28-12-43.	Regina, Sask.

Photo by H. Pollard, Calgary.



Lieut-Colonel F. R. Drewry

Lt.-Col F. R. Drewry is the Command Dental Officer, No 4 Training Command, R.C.A.F. with headquarters at Calgary, Alberta.

He was born in Warkworth, Ontario and graduated in dentistry from the University of Toronto in 1918. He practised in Cobourg, Ont. until his appointment to the C.D.C. in January, 1940.

Lt.-Col. Drewry was an officer of the 22nd Medium Battery, R.C.A. in the N.P.A.M., being appointed Officer Commanding in 1937. After serving with the C.D.C. in Canada he proceeded overseas to organize dental service for R.C.A.F. personnel overseas. He was promoted to the rank of Lt.-Col. in July, 1942 and returned to Canada in December, 1942 to his present appointment.

Major E. T. Guest

The promotion has recently been announced of Major E. T. Guest from the rank of Captain.

This officer was born in Toronto and was graduated in dentistry from the University of Toronto in 1924. He practised in Toronto where he served as a member of the Board of Education for a number of years. He was chairman of that board in 1934.

Major Guest has been active in the field of Dental Public Health and has served as Chairman of the Public Dental Health Committees of the Academy of Dentistry, Toronto, and of the Ontario Dental Association. He has also served as the president of the Academy of Dentistry, Toronto, and is a member of the Executive Board of the Canadian Dental Hygiene Council.

Major Guest is at present, employed as a staff officer at C.D.C. Headquarters, Ottawa.

Lt.Col. G. Franklin

National Defence Headquarters, Ottawa, has recently announced the promotion to the rank of Lieut.-Colonel of Major Gerald Franklin of Montreal.

He was graduated in dentistry from McGill University in 1922 and has practised in Montreal since then, specializing in orthodontia. He is a lecturer in the Faculty of Dentistry, McGill University and is a member of the staff of Montreal General Hospital and the Children's Memorial Hospital. He was a member of the Board of Governors of the College of Dental Surgeons, Province of Quebec.

Lt.-Col. Franklin was appointed to the C.D.C. shortly after the outbreak of the war and proceeded overseas with the First Canadian Division. During his three and a half years service overseas Lt.-Col. Franklin specialized in the treatment of jaw injuries and teaching to other officers the specialized treatment required. In May 1943 he was recalled to Canada for similar instructional duty.

Lt.-Col. Franklin is a staff officer at C.D.C. Hdqs., Ottawa, and is a member of the instruction staff of the recently formed Canadian Dental Corps Technical Training Centre.



Canadian Army Photos.





Canadian Army Photos.

Major Johnston W. Abraham, M.M.

The promotion has recently been announced of Major Johnston W. Abraham M.M. from the rank of Captain.

This officer was born in Montreal. He served overseas in World War I with an artillery unit and was awarded the Military Medal. On his return to Canada, he studied dentistry at McGill University graduating in 1923.

Up until his appointment to the C.D.C. Major Abraham practised in Montreal and is a Governor of the College of Dental Surgeons of Quebec. Major Abraham is at present employed as a staff officer at C.D.C. Headquarters, Ottawa.



Lieut.-Colonel V. H. Jekill

Canadian Military Headquarters, Overseas has announced the promotion of Lt.-Col. V. H. Jekill from the rank of Major.

This officer was born in Montreal and while a student at Montreal High School enlisted for service in World War I. He served in France with an artillery unit and was wounded at Amiens in 1918.

On his return to Canada he entered McGill University and was graduated in dentistry in 1925. He practised in Montreal until his appointment to the C.D.C. in October, 1939.

After some service at C.D.C. Headquarters, Ottawa, he proceeded overseas in 1940.

CANADIAN DENTAL ASSOCIATION NEWS

Conference of National Health Organizations on Health Insurance

A cordial invitation was received from the Canadian Medical Association, to attend a conference of Canadian Health Associations on Health Insurance to be held on January 28 and 29, at the King Edward Hotel, Toronto. The number of delegates was restricted to five, in order to assure free discussion.

As outlined in the letter of invitation—"The purpose of the meeting is to permit free exchange of ideas on those topics which are of mutual interest such as the provision and maintenance of professional education, the planning of health work in rural and urban communities, etc. We are desirous that the program be such that it will bring to the attention of the other health organizations represented some of the major problems facing each particular group and that it will permit discussion in particular of some of the problems that are the concern of several of the organizations represented."

After studying the tentative agenda, President Rooney appointed the following delegates: President-elect Reid, representing the President; Dean Mason, representing the Committee on Dental Education; Dr. Armand Fortier; Brigadier F. M. Lott; and Don W. Gullett, Secretary.

ADDITION TO THE NARCOTIC SCHEDULE

"An Order in Council has been passed, and published in the Canada Gazette, adding Demerol (Dolantin, Pothidine or any other trade name) to Part 1 of the Schedule of the Opium and Narcotic Drug Act. Under the law, this Order in Council becomes effective on January 24, 1944, i.e. thirty days after its publication in the Canada Gazette, and from then on Demerol will be administered in precisely the same manner as Morphine, Cocaine and other scheduled narcotics.

COST OF LIVING BONUS

Under the Wartime Wages Control Order P.C. 9384, effective December 9, 1943, all dentists who have employees in their offices will be required to incorporate the existing bonus as a part of the basic wage.

A circular addressed expressly to those who have not been paying the compulsory cost of living bonus is being sent out by regional War Labor Boards. This circular summarizes the present position respecting the Cost of Living Bonus, including the New Order which is effective for the first payroll period commencing on or after February 15, 1944. The circular reads as follows: "We have been advised that you have not been paying the compulsory cost of living bonus to your employees.

By direction of the National War Labor Board, all males 21 years of age or over, have been entitled to 60c per week cost of living bonus between August 15, 1942, and November 15, 1943. This amount was increased to 95c per week from November 15, 1943 to February 15, 1944. Females earning \$25.00 per week or over should also be paid on this basis.

Males under 21 years of age and earning under \$25.00 per week, and all females earning under \$25.00 per week, have been entitled, between August 15, 1942, and November 15, 1943, to 2.4% of their weekly earnings, and between November 15, 1943, and February 15, 1944, to 3.8% of their weekly earnings.

The above cost of living bonus payments are on February 15, 1944, to be merged with the basic wage rates in keeping with the provisions of the Wartime Wages Control Order, P.C. 9384.

Therefore, if the above compulsory cost of living bonus has not been paid you must immediately pay whatever arrears may be owing to your employees, retroactive to August 15, 1942.

"Initiative is in business what radium is among metals — the rarest and most valuable."

NEWS FROM THE PROVINCES

ONTARIO:

Celebrates Golden Wedding

Dr. and Mrs. S. L. Frawley celebrated the golden anniversary of their wedding in February. Dr. Frawley has practised in Toronto for the past forty-five years and is a 32 degree Mason.

They have three children, Lieut. Gilbert A. Frawley, RCASC, stationed on the West Coast; Lieut.-Col. Gordon Frawley with the 8th Army in Italy, and Mrs. John Dewar, of Bronte, whose husband is a lance-corporal in the Royal Canadian Corps of Signals and has been overseas for four years.

Dental Nurses Alumnae Association

The Annual Bridge of the Dental Nurses Alumnae Association was held February 11, at the I.O.D.E. Headquarters.

The president, Miss Marjorie Jackson, welcomed the guests and introduced the convener, Miss Lillian Potter. Assisting Miss Potter with arrangements were her committee, Miss Betty Broadrib, Miss Edna Steed and Miss Frances Stewart.

Mrs. A. D. Mason, Mrs. R. G. Ellis, Mrs. F. Martin, and Mrs. H. J. Mullét drew for the many lucky number prizes donated for the Bridge. Refreshments were served during the evening.

The proceeds of the Bridge are to go to the Dental Nurses Alumnae Association War Fund.

Ida E. Davis.

The Ontario Dental Nurses' and Assistants' Association

THE PATRIOTIC DONATORS AND KNITTERS CLUB:—The provincial war convener Leta Blaber announced the renewal of the Charter for 1944. Cables and letters announcing the safe arrival of Christmas parcels containing knitted comforts and Canadian foods sent from the P.D.K.C. to servicemen and women in England, were also received.

TORONTO A.A. varied its discussion night with a Quiz in dental subjects; teams were selected and fifty questions were

answered, with prizes for the winning team. The following meeting was Doctors' Night and the members brought their "Bosses" to hear Dr. Marguerite Archibald speak on "Food For Thoughts," an interesting subject well presented.

HAMILTON A.A. held a Christmas party at the Scottish Rite Cathedral and was honored in having Miss Loretta McCaughey, the O.D.N. & A.A. President, who gave some advice on "Professional Ethics" in her usual witty style. Another welcome guest was Miss Isobel Scott, President of the London Affiliated Association. Gifts were presented to the London guests. At the following meeting the Association was privileged to see movies of England at War, through the courtesy of the Junior Chamber of Commerce Film Board. These wonderful films, "RAF Ferry Command", "Churchill's Island", and "London Tour" had been photographed with sound effects.

LONDON A.A., during November, was privileged to visit the Army Dental Store House and the Dental Clinic through the courtesy of Lieutenant-Colonel Brown C.D.C. In December a delightful Christmas party was held at the home of Kathleen Clark and instead of the usual exchange of gifts a penny sale was held and the proceeds went to the P.D.K.C. The following meeting Miss Loretta McCaughey was hostess and Mrs. Freida Stephens gave an interesting review on H. V. Morton's "Atlantic Meeting."

BRANTFORD A.A. held a Christmas party; an entirely social evening was enjoyed. At the following meeting Dr. J. V. Nelles, Medical Superintendent of Brantford Sanatorium, was the guest speaker. The meeting was held at the Sanatorium and Dr. Nelles explained fully the x-rays, treatments, and symptoms, of tuberculosis from the time of admission to the institution.

NIAGARA FALLS A.A. held its meeting in the St. Catharines' Y and plans were discussed for raising money for the P.D.K.C. A donation of \$10.00 was sent to the O.D.A. & A.A.

Irean C. Bruce

Ottawa Dental Society

At a recent meeting of the dentists in Canada's Capital City, the Journal of the Canadian Dental Association was made the official organ of the Society. The editor and members of the Journal Committee greatly appreciate this expression of support and goodwill. Every effort is being made constantly to improve our national publication so that it will reflect the progress in achievement and thinking of members of the profession. The recognition of these efforts is most encouraging to all entrusted with the publication of the Journal.

Excellent Presentation Made in Hamilton and Toronto

On February 15, Dr. Balint Orban of Chicago appeared before members of the Hamilton Dental Society, and on the following evening came to the Toronto Academy of Dentistry. The guest of these associations presented an illustrated address dealing with a classification of periodontal lesions and a type of treatment to eliminate the periodontal pocket, which he has found successful. The speaker concluded his lecture with a motion picture film in color further illustrating his course of treatment.

In Toronto, at the conclusion of the meeting, President Charles McLean read a statement from Dean Arnold Mason for the information of the members, in respect to a research project relating to incidence of dental caries in certain districts in Ontario. The statement follows—

"The Faculty of Dentistry in co-operation with the Department of Health of the Province of Ontario, has for some time been conducting the first dental survey of its kind in Ontario. Investigations are being carried out in certain localities on the relationship of the incidence of tooth decay to the water supply and soil conditions. Among these districts is the village of Ripley, and the surrounding countryside where the caries-free findings were found to be unusually good. Other districts have shown varying degrees of freedom from tooth decay, and the cause of these variations is the object of this investigation.

"It is generally known that fluorine in certain concentrations in the drinking water



CAPT. W. O. GARDINER
*President
Ottawa Dental Society*

appears to be associated with a reduction in the amount of dental caries in many localities. How fluorine acts to protect the enamel from caries is at present not thoroughly understood.

"From experimental evidence it would appear that other factors in certain diets can protect teeth from acids. The study of relative freedom from decay in a community where fluorine is absent from the drinking water will be of value in appraising these other factors that protect the enamel against acid attack. Fluorine is a very toxic agent even in relatively small doses and it is clear that its internal use in preventive dentistry is not without hazard. The developing teeth are especially sensitive to the harmful effects of fluorine and only one part in a million is sufficient to cause the dental defect known as mottling of the enamel. At the present time we have no thought of recommending the addition of fluorine to the drinking water or through supplements in the regular diet."

Arnold D. Mason, Dean.

Three Day Course in Dentistry for Children Gets Under Way in Toronto

On February 28 approximately eighty dentists from more than forty centres in Ontario came to the Faculty of Dentistry, University of Toronto, for a post-graduate course in Dentistry for children. The course was arranged by the Faculty in co-operation with the Board of the Royal College of Dental Surgeons and the Canadian Dental Hygiene Council. The following list of well-known instructors were in charge — Dean Arnold Mason, M. Armacost Cox M.D., S. A. MacGregor D.D.S., R. G. Ellis B.D.S., D.D.S., M.Sc. (Dent), J. H. Johnson D.D.S., and George E. Morgan D.D.S., F.A.C.D., of Milwaukee.

It is most encouraging to those interested in the promotion of better dental public health to learn of the splendid response to this course. It is an indication that dentists fully realize dental health maintenance must begin with the young child to effectively control dental disease. Those responsible for sponsoring the course are to be commended for arranging an opportunity to study the clinical application of newer measures which dentists can undertake to maintain and promote dental health in children.

MANITOBA:

Winnipeg Dental Society

The familiar saying "A Prophet is not without honour save in his own country," or as it is sometimes paraphrased "There is no honour for a man in his own country," was again contraverted by the large attendance at the recent meeting of the Winnipeg Dental Society when Dr. J. R. Hurton of Portage la Prairie was the guest speaker. Dr. Hurton's presentation was a simplified technique for immediate denture insertion.

The difference between what the laboratory technician does to the model with a jack knife and the finished result of the labours of the exodontist is what makes for success or failure with the insertion of a comfortable denture. Dr. Hurton tries to make all his immediate insertion cases a success by using a clear acrylic base plate prepared from a duplicate model of that on

which the denture is processed. This base plate is used by the exodontist after the removal of the teeth from the mouth as a guide in his surgery. The base plate being clear enables him to see the pressure points requiring trimming etc.

Dr. Hurton's presentation included a paper of explanation of his methods and a table clinic with models of the several stages of his laboratory procedure all of which was well received and very interesting.

Dr. A. W. Myles, President of the Society, presided.

BRITISH COLUMBIA:

Vancouver Dental Society

The February meeting of the Society was held in the Mayfair Room, Hotel Vancouver, on February 1.

The speaker at this time was Dr. G. D. Stibbs, who chose for the title of his talk, "Radiodontia". He read a fine paper on the subject and showed many slides to illustrate the points made.

He covered the subject under these general headings:

Dark Room Technique

Operative Procedure

Interpretation

Dr. Stibbs was the chief organizing influence in the Diagnosis Study Club of the Society and has contributed markedly to its success.

This paper was presented to the Victoria Dental Society at its January meeting and was certainly worth repeating.

It is interesting to note that an editorial in the February issue of the *Journal of the American Dental Association* comments on the added attention given in dentistry to Radiodontia. The following is from this editorial:

'At the Cincinnati meeting of the Board of Trustees, Dr. Leroy M. Ennis, of Philadelphia, on behalf of a group of dentists interested in the application of radiology to dental practice, presented the following resolution:

"At a meeting of Dental Radiologists held in the Netherland Plaza Hotel, October 11, 1943, the feeling was expressed

that the field of Dental Radiology was of vital importance to the practice of dentistry, and that a Section on Dental Radiology be created and placed on the program of all future meetings of the American Dental Association."

This resolution was favorably received by the Board, recommended to the House of Delegates and unanimously adopted.'

Captain Rader of the Canadian Dental Corps, who was with the Canadian Forces in Kiska, gave a most interesting extemporaneous talk on experiences during this operation. He commented most favourably on the efficiency of the basic Canadian Dental Corps

organization as well as the usefulness of its field equipment under active service conditions. He particularly remarked on the great advantage of the independence of the Dental from the Medical Corps.

ALBERTA:

Calgary Dental Society

Lt.-Col. Fred Drury was the speaker at the February Meeting of this Society.

His subject was "The Organization and Development of the Canadian Dental Corps in Britain," and it was one of the most interesting and informative addresses given the Society in many months.

EMPIRE NEWS

GREAT BRITAIN:

New Scale of Fees

The editor of the British Dental Journal has this to say, in part, about the new "Scale of Fees" adopted by the National Health Insurance Joint Committee, in the Journal of January 7, 1944:

"It need hardly be said that the Scale of Fees put forward by the Ministry is much more favorable to the profession than the maximum offer made on behalf of the Approved Societies in the course of the negotiations in the Dental Benefit Council. It will indeed have to be imposed upon the Societies by Regulations.

How favorable is it to the profession? That question can best be answered by reference to the four points put forward by the J.A.D.C. prior to opening of the negotiations. The first of these was to 'implant in the Scale a recognition of the importance of careful and accurate diagnosis by providing for the payment of a fee for examination, to be payable in every case, irrespective of whether the patient does or does not return for treatment.' This has been achieved and any criticism of the amount of the fee or of the limiting conditions attached to it should be tempered by the reflection that the introduction of such a fee constitutes something like a revolution in industrial practice which may well have important repercussions on other realms of practice. Careful diagnosis lies at

the root of all sound treatment and it is proper that this should be recognized in any scale of fees, public or private. Conversely it can be said that the assignment of specific fee to examination underlines the obligation, which every conscientious practitioner recognizes, to carry out a complete and careful survey of the condition of the mouth and teeth before undertaking treatment. It emphasizes also that the dentist is required under the scheme to specify the treatment which in his opinion is necessary, even if it is not that which the patient desires, and should therefore strengthen his hand when he has to deal with insured persons who are reluctant to have conservative treatment.

The late Dr. George Northcroft

The British Dental Association has to mourn the death of one of its most distinguished members, Dr. George Northcroft, O.B.E., Chairman of the Representative Board from January 1933, to the time of his death. At the meeting of the Board, Sir Norman Bennett, paying tribute to the memory of their late Chairman, gave eloquent expression to the feelings of esteem and affection which he had inspired in every member of the Board and of their appreciation of the untiring and devoted service which he had rendered to the Association and the profession.

Chairman of Board

Mr. A. De Mierre was unanimously elected as Chairman of the Representative Board to succeed the late Mr. George Northcroft.

SOUTH AFRICA:

A New South African Dental Society

An event of considerable interest and importance in the South African dental world is the establishment recently of a Society of Full-time Dental Officers. This Society aims to further public dental health, dental education, dental research and related subjects, and to promote the interests and welfare of dentists employed in a full-time capacity in services, organizations and institutions dealing or concerned with these subjects.

At present there are twenty-six civil full-time dental appointments in the Union and

considerably over 100 military full-time appointments. The majority of the civil full-time dental officers are engaged in institutions or services that provide dental treatment for children, but a few are full-time municipal dental officers. One is attached to the Union Department of Public Health, five are university teachers, and at least one is employed by a large industrial concern.

It is probable that when the war ends many of the present military dental officers will secure full-time appointments, for, although there has always been a tendency in South Africa to reserve all forms of dental work for private dental practitioners, Government, municipalities, and other employers are gradually learning that for certain forms of dental work the employment of full-time dentists is the only satisfactory method.

GENERAL NEWS

Dominion Dental Council Examinations

There will be a Dominion Dental Council Examination held at the University of Alberta, and Dalhousie University May 8 to 13. For this examination class D fees should be in the Secretary's office not later than March 15, and class A fees not later than April 10. There will be an examination also from August 1 to 5, which will be held in Toronto, Ontario. Fees for class D, for this examination should be in not later than June 15 and class A not later than July 3.

*A. J. Brett, Sec.-Treas.,
Regina, Saskatchewan.*

New Section on Dental Radiology in A.D.A.

At the Cincinnati meeting of the Board of Trustees of the American Dental Association it was decided to establish a Section on Dental Radiology. It will be the purpose of this Section to extend its knowledge of radiology into the various phases of dental practice.

Freeze Salaried Physicians, Dentists, Nurses in Jobs

An announcement from the War Manpower Commission on January 10 stated that physicians, dentists, veterinarians, sanitary engineers and nurses who are salaried employees in essential or locally needed activities are subject to the same provisions of any employment stabilization program as apply to other workers in such activities. After

that date such salaried professional employees may not change their jobs without securing statements of availability from the United States Employment Service or being referred to new jobs by that agency.

The announcement, however, emphasized the fact that the Employment Service will recommend such employees only after consulting with the state Procurement and Assignment chairman. This procedure will insure recommendation of these professional workers to jobs in which they can make their most effective contribution to the war effort. On approval of the regional war man-power director, any state director may delegate the duty of referring such employees to new jobs to the state and local offices of the Procurement and Assignment Service.

—Illinois D. Jour.

Congress Provides Funds for Relocation of Civilian Dentists

Congress has approved a supplemental appropriation bill, H.R. 3598, which authorizes the expenditure of \$200,000 by the United States Public Health Service in providing dental and medical services in critical areas at the request of local communities. Such services will be provided through contracts with civilian physicians and dentists who agree to practise for not less than one year in the new locality. A monthly allowance of \$250 will be paid physicians and dentists for three months, plus moving expenses. The local community requesting such services will be required to assume 25 per cent of the relocation allowance and moving expense, and the relocated physician or dentist must comply with the licensure laws of the state to which he removes.

The bill has now been submitted to the President, who initially requested an appropriation of \$1,000,000 to supply these services. The proposal that the Public Health Service be authorized to assign medical and dental officers to the critical areas failed to receive the approval of Congress.

The Electron Microscope

The science of radio is no longer confined to communications. Among revolutionary accomplishments—in other lines, we have the electron microscope, one of the most important new scientific tools of the twentieth century. Developed in RCA Laboratories, and based upon television techniques, this instrument has a high wartime priority rating for use in scientific, medical and industrial research. For the first time, it has made it possible for us to see and identify molecules and to photograph the influenza virus. It has revealed, in infinite detail, the true structures of fibres, crystals and pigments. The sub-microscopic world is now opened wide for exploration. Bacteria, tissues and minute particles of matter have been brought within range of man's eye, for the electron microscope, many times more powerful than the strongest optical microscope, permits magnifications up to 100,000 diameters. A needle on such a scale of magnification would appear as huge as the Washington Monument; a blood corpuscle as large as the wheel of an

automobile and a football field, five times the size of the United States.—*David Sarnoff in Science.*

Navy Orders "Sunlight" for U.S. Battleship "New Jersey"

The officers of the new Battleship New Jersey, intend to see to it that the health of its personnel will never suffer through lack of sunlight.

In addition to guns and all the other instruments of destruction, orders have been placed for installation of constructive health-giving ultraviolet ray apparatus that will "shoot" the vitamin D of sunshine into the men. This represents the first time that ultraviolet sunbaths will be made available to the entire personnel of one of our battleships.

United States and British submarine crews have for some time been provided with ultraviolet irradiation, as have the workers in many blacked-out British factories where it has been found helpful in reducing absenteeism. Similar lamps are specified for the newest aircraft carriers.

Sound Slide Films

Because less than 25 per cent of the people have regular dental care; because the public has not been educated to want dentistry as much as it wants other things,—commodities produced by industries which have done a better selling job than dentistry; the Dental Hygiene Institute of Chicago was established two years ago by the Chicago Dental Society to help dentistry attain its rightful place in the family budget.

It was decided that an important part of the Institute's program should be the production and showing of educational films. To date two such films have been produced for adult audiences. These films are both sound slide films and were produced at a cost of \$2,100.00 and \$2,400.00 respectively. A sound slide film consists of a series of still pictures on a roll of 35 mm. film. Successive pictures are projected on the screen and held there to the accompaniment of the dialogue or narrator's description. A motion picture in which the characters talk, not merely an illustrated lecture would cost \$15,000.00.

IN MEMORIAM

Mrs. Victor Crowe of Truro, Nova Scotia, died February 4. Mrs. Crowe was the wife of our Canadian Dental Association Delegate representing Nova Scotia. The officers and members of our Canadian Association wish to express to Dr. Crowe their sincerest sympathy in this great bereavement.

Albert J. Lester of Hamilton, Ontario, aged 63, died at his home very suddenly on January 26.

He was a life long resident of Hamilton, graduating from the Royal College of Dental Surgeons in 1906. Immediately he set up practice in his native city. Later he took post-graduate studies in periodontia under J. O. McCall in Buffalo and became a specialist in this field.

He was a past president of the Hamilton Dental Society and one of its founders. Through the years he presented many clinics to share his professional knowledge with his colleagues.

His hobbies were photography and flowers.

Dr. Lester is survived by his widow, three sisters, and one brother.

Gilmour J. Steele of Toronto, Ontario, aged 65, died on January 16.

He was graduated from the Royal College of Dental Surgeons of Ontario in 1908. After graduation he began practice in Toronto, later going into business and at the time of his death he was President of the Standard Brick Co. Ltd. and the Steele Coal Company.

During the last war, he was engaged in the manufacture of munitions and was a registrar in the national registration. He was a former president of the Builders Exchange and Construction Association, a former chairman of the Canadian Lumberman's Credit Association, an executive of the Ontario Safety League, and a board member of Mimico Industrial School. For several years he was a mem-

ber of the Board of Education in Toronto. He was a past president of the Canadian Progress Club.

Dr. Steele was a member of Rosedale United Church, Riverdale Lodge A.F. & A.M., the Independent Order of Foresters, and the Knights of Pythias.

He is survived by his widow and one son.

Herbert V. Maranda of Ottawa, Ontario, aged 51, died in Ottawa Hospital on January 22.

He was graduated from the Royal College of Dental Surgeons of Ontario in 1917. He immediately began practice in Carleton Place, moving two years later to Plantagenet, his native town, where he continued until 1933 when he moved to Ottawa.

Dr. Maranda was a popular figure within the circle of his own profession, as well as outside among those who knew him. He was a parishioner of St. Joseph's church.

He was unmarried and is survived by two brothers and four sisters.

Captain Abraham Steinberg of Montreal was killed in a plane crash while on his way home for leave from Bagotville. Captain Steinberg who was serving with the Canadian Dental Corps, was attached to the R.C.A.F. He was graduated from McGill University in 1927.

Captain Steinberg is survived by his widow and two daughters.

William Dick of South Range, Ontario, aged 72, died on January 28. He was graduated from the University of Michigan and finally located at South Range. He was a Mason and a member of the United Church.

Dr. Dick was unmarried and is survived by one sister, two nephews and three nieces.

... SECTION FRANÇAISE ...

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenant, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Venne, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAUDEAU, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

L'Usage des Mots

Peu de gens ont, comme le rédacteur d'une revue ou le traducteur, l'occasion de juger avec assez d'équité la langue qu'emploient certains professionnels dans leurs communications scientifiques.

L'Anglais n'est pas ma langue, ni celle de nombreux confrères à qui des études classiques ont fourni tous les moyens indispensables à une saine critique. Or depuis longtemps, l'obligation de trouver chez les autres la substance nécessaire à l'alimentation de notre section du journal nous a forcé à lire de nombreuses communications dans des revues de langue anglaise. Eh bien, ce que nous y trouvons hélas trop souvent, est triste à tirer les larmes quand ce ne sont pas des imprécations. Une foule d'étrangers posent aux grands savants, et écrivent dans une langue qui n'est pas la leur des articles et des articles, remplis d'affirmations prétendues scientifiques, de statistiques souvent fausses, de techniques personnelles, la plupart empruntées à d'autres, si bien qu'on se demande avec inquiétude si ces gens ne veulent pas faire de la dentisterie ce qu'ils ont fait de la peinture et de la musique; c'est à dire une marécage infecte ou seuls pourront respirer les amphibiens qui en vivent. Bien plus, s'ils se contentaient d'affirmer aujourd'hui, contre tout bon sens, ce qu'ils nieront demain, on pourrait se contenter d'en rire ou de les plaindre; mais ils soumettent sans vergogne la langue qu'ils emploient à toutes les tortures imaginables si bien que pour les comprendre il faudrait rééditer les dictionnaires tous les mois.

Mais me dira-t-on ils se comprennent. Oui, mais qu'on me signale donc une communauté, même d'illétrés, chez laquelle les individus, ne se comprennent pas entre eux. Cette liberté que prend un peuple d'accepter sans contrôle tous les mots qu'il plaît aux individus de fabriquer à leur goût est-elle bien un signe de civilisation? Si les vrais savants et les vrais intellectuels canadiens et américains n'y font pas

attention ils se réveilleront un beau matin incapables de se comprendre les uns les autres pour avoir toléré trop longtemps ce germe de decadence semé par ceux qui ont bien conservé leur langue propre.

The Journal of the American College of Dentists heureusement a lancé le cri d'alarme et s'élève avec raison contre ce mauvais goût qu'ont certains écrivains de fabriquer à leur guise des mots baroques quand ils ignorent le mot propre ou ne veulent pas se donner la peine de le chercher. Il en donne quelques exemples:

Publicise, Notarise, Concretise, Dentalise ou Chairise. Et l'éditeur qui vient de trouver *surgerise* ne serait pas surpris de découvrir; *Prosthetise a patient.* Aussi termine-t-il son éditorial en disant que l'homme de profession doit manifester son instruction par l'emploi de mots propres.

Peut-être serait-il à propos de nous rappeler qu'avec deux minutes de réflexion ou aurait tôt fait de constater que tel écrivain en quête de renommée compte bien plus sur notre naïveté de gogo que sur la valeur scientifique de son écrit pour nous épater . . . à moins, qu'à force d'ignorance il ne se croit lui-même un Pic de La Mirandole capable de discuter avec compétence de omni re scibili. Nous en connaissons même qui ajouteraient volontier: et quibusdam aliis tant ils n'ont jamais douté de l'universalité de leur science.

Dr Alcide Thibadeau.

Syndrome Douloureux et Fonctionnel par Mauvais Articulé Dentaire

par PAUL HENNEBERT (1) (Bruxelles)

Le syndrome que nous présentons n'est pour ainsi dire pas connu en Europe. Il appartient par ses symptômes au médecin général, à l'otorhino et au stomatologiste. Il appartient par sa pathogénie et son traitement à l'articulation temporo-maxillaire, ce "no mans land", région frontière de l'auriste et du dentiste, du chirurgien et du médecin, dans laquelle aucun des quatre ne s'aventure. C'est une région mal décrite aussi en anatomie, puisqu'elle se trouve au confluent de plusieurs régions topographiques.

La fréquence de ce syndrome, ignoré par les médecins, ainsi que l'efficacité d'un traitement extrêmement simple justifient cette communication.

Le syndrome dépend d'un mauvais articulé dentaire, "malocclusion" disent les Américains. Il s'agit le plus souvent d'un articulé trop bas, c'est-à-dire une fermeture exagérée de la mâchoire qui se produit par suite de l'absence de dents, ou bien par chevauchement en avant ou en arrière ou bien encore par articulé croisé (prognathisme d'un côté, rétrognathisme de l'autre), ou bien encore par dents usées ou trop courtes.

Cette bouche trop fermée entraîne des anomalies du côté de l'articulation temporo-maxillaire elle-même, du côté de son ménisque, du côté des muscles masticateurs.

C'est là que réside la clef de la pathogénie du syndrome.

L'articulation temporo-maxillaire est très particulière. Avec celle du genou elle est seule à posséder un ménisque. Ses mouvements sont solidaires de la deuxième articulation temporo-maxillaire puisque la mandibule est d'une pièce. Les mouvements qu'elle exécute sont bien plus compliqués qu'un simple mouvement de charnière. Enfin cette articulation a des rapports de voisinage riches en organes délicats.

(1) Communication à la Société de Laryngologie des Hôpitaux de Paris, janvier 1939, publiée dans les *Annales d'oto-laryngologie*, n° 4, avril 1939, p. 371, et dans la REVUE DE STOMATOLOGIE, 1939-1940.

Nous réduirons l'anatomie et la physiologie de l'articulation temporo-maxillaire aux rappels nécessaires à la compréhension du syndrome.

Du condyle nous dirons simplement qu'il est transverse et nous ferons remarquer que les deux condyles du maxillaire ne sont pas parallèles mais font entre eux un angle ouvert en avant: ce point rend déjà impossible un mouvement de charnière du condyle dans la cavité glénoïde.

Cette cavité glénoïde, dépression profonde en arrière du condyle du temporal n'est articulaire que dans sa moitié antérieure, celle située en avant de la scissure de Glaser et qui appartient à l'écaille du temporal.

L'autre partie, postérieure, appartient à l'os tympanal et n'est pas articulaire. Elle est remplie de tissus mous qui contiennent, au milieu d'un plexus veineux, le nerf auriculo-temporal et ses branches, l'artère temporale superficielle et la corde du tympan.

Entre le condyle du maxillaire et la cavité glénoïde se trouve le ménisque dont il faut noter les particularités suivantes: il est plus gros en arrière (4-5 millimètres) qu'en avant (2 millimètres). Il est attaché sur tout son pourtour à la capsule: lâchement en arrière, solidement en avant, là même où les fibres du muscle ptérygoïdien externe viennent s'insérer. En arrière existe un ligament spécial, élastique, s'insérant dans la scissure de Glaser et appelé frein du ménisque. C'est lui qui rappelle le ménisque en arrière, par un mouvement antagoniste de celui du ptérygoïdien externe, lorsque la bouche se ferme.

Les mouvements de l'articulation sont de trois ordres: mouvements d'abaissement et d'élévation, mouvements de propulsion et de rétropulsion, et enfin mouvements latéraux.

Nous ne retiendrons que le premier pour notre démonstration, les deux autres intervenant également mais d'une manière moins importante.

Ce mouvement d'abaissement et d'élévation est la résultante de deux mouvements élémentaires: un mouvement de rotation du condyle du maxillaire inférieur sur le ménisque et un mouvement de translation antéro-postérieur du ménisque sur le temporal.

Par conséquent, dans l'ouverture de la bouche, le condyle du maxillaire, coiffé du ménisque, quitte la cavité glénoïde pour se porter en avant contre le condyle du temporal jusqu'au niveau du tubercule zygomatique antérieur qu'il arrive même à dépasser légèrement.

Ces déplacements sont bien enregistrés par la radiographie. Les traités d'anatomie donnent de ces mouvements des schémas classiques. On y trouve souvent le schéma de la luxation de la mâchoire: le condyle du maxillaire a débordé en avant le condyle du temporal.

Ce qu'on ne trouve pas dans les traités, c'est le schéma d'une bouche trop fermée. Le condyle du maxillaire vient habiter la partie postérieure de la cavité glénoïde, en arrière de la scissure de Glaser. Il vient buter contre la paroi antérieure du conduit auditif externe, sans interposition de ménisque puisque celui-ci est retenu solidement en avant par la capsule et en arrière par son frein qui est inséré dans le fond de la scissure de Glaser.

Une mâchoire qui a un articulé tel qu'elle peut se fermer d'une manière exagérée ne prend pas, lorsqu'elle s'ouvre, la position normale, classique. Le condyle du maxillaire vient à peine toucher le condyle du temporal et atteint à peine le tubercule zygomatique antérieur qu'il ne dépasse jamais. Une bouche qui se ferme trop ne peut plus s'ouvrir normalement. Il y a un décalage du mouvement avec une amplitude qui reste à peu près la même.

Ces mouvements pathologiques sont également bien décelables par la radiographie.

C'est ici que nous touchons le nœud de la question que nous esquissons. Nous

pouvons établir une pathogénie des troubles si variés que sont les symptômes du syndrome.

Nous avons dit plus haut comment une mâchoire pouvait ainsi se fermer d'une manière exagérée. Absence d'un nombre plus ou moins grand de dents, prognathisme ou rétrognathisme. Les stomatologistes insistent sur le rôle d'appui des molaires dont l'absence est la cause première du mauvais articulé; mauvais articulé qui trouve dans la langue américaine une synonymie expressive: malocclusion, law-bite, lower, jaw, overclosure of the jaw.

C'est ce mauvais articulé qui est la cause du syndrome. C'est la correction de ce mauvais articulé qui est le traitement du syndrome.

Pathogénie

Comment ce mauvais articulé engendre-t-il syndrome? Il y a plusieurs théories.

La première est une théorie articulaire (Costen). Elle a été esquissée plus haut. Au fur et à mesure que le syndrome s'installe complètement (il faut souvent pour cela plusieurs années) il se passe les divers phénomènes suivants:

Dans les premiers mouvements anormaux du condyle, longtemps même avant l'apparition des douleurs, l'irritation des nerfs sensibles de la capsule (branches de l'auriculo-temporal) entraîne un trismus relatif. Ce trismus exerce une pression anormale sur le ménisque et les autres constituants de l'articulation. Le ménisque s'use d'abord au milieu par la pression exagérée contre le condyle du temporal lorsque la bouche est ouverte et se luxé en avant. C'est alors que la tête du condyle du maxillaire, dans la position de fermeture, décoiffée de son ménisque, vient buter dans la partie tympanale de la cavité glénoïde. Elle y écrase les tissus mous, les veines, les artères et les nerfs qu'ils contiennent. Ils sont d'autre part refoulés du côté interne.

Un autre effet est d'amincir la voûte de la cavité glénoïde et de provoquer dans le voisinage une réaction méningée discrète.

La compression des veines qui constituent dans cette région un véritable réseau entraîne des troubles circulatoires, de la stase qui par elle-même déjà provoque bien des troubles.

La compression des nerfs est bien plus importante: dans le fond il y a l'auriculo-temporal, en dedans il y a la corde du tympan et le ganglion otique d'Arnold. Ces nerfs appartiennent par eux-mêmes et par leurs anastomoses au V, au VII, au IX et au X.

Cette irritation des troncs nerveux entraîne des douleurs du côté de l'articulation temporo-maxillaire elle-même (d'un côté ou des deux), du côté des yeux, de la région des sinus, des douleurs au vertex; ces douleurs sont souvent accompagnées de sensation de brûlure. On enregistre de la diminution de la sécrétion salivaire avec ou sans lésions des glandes (gonflement ou induration). Les symptômes du côté de l'oreille apparaissent en dernier lieu: otalgie, démangeaison de la peau du conduit, herpès et surtout bourdonnements, vertiges et surdité.

Ces symptômes sont unilatéraux ou bilatéraux. On note également de la douleur dans la région de l'os hyoïde, un besoin fréquent de boire en mangeant, de la parésie du pharynx, de la base et du bord de la langue (glossodynie).

Il n'est pas étonnant que la persistance de ces symptômes soit la source de cancérophobies fréquentes.

Pour mieux étayer les faits et les théories il est utile de faire un bref rappel anatomique des différents nerfs intéressés.

Le nerf auriculo-temporal ou temporal superficiel naît du maxillaire inférieur, branche du V, par deux racines qui se rejoignent en faisant une boutonnière où passe l'artère méningée moyenne. Il passe sur le péristaphylin interne qu'il innerve, passe ensuite entre le ligament sphéno-maxillaire et le condyle du maxillaire. Il

contourne celui-ci en arrière, continue dans le fond de la partie non articulaire de la cavité glénoïde pour en sortir par une échancrure située entre le tubercule zygomatique postérieur et le conduit auditif. Il traverse la partie la plus élevée de la parotide et va s'épanouir dans la région temporale.

Au cours de ce court trajet le nerf auriculo-temporal donne les branches suivantes: un ou deux filets pour le ganglion otique, un ou deux filets également pour le facial, un filet pour le nerf dentaire inférieur, un filet pour l'articulation, pour la parotide, pour le conduit auditif, pour le pavillon (région antérieure et tragus), enfin les branches terminales temporales.

La corde du tympan branche du facial ne nous intéresse qu'à partir du moment où elle sort du crâne à la partie tout à fait interne de la scissure de Glaser. A cet endroit elle croise la partie interne de l'articulation temporo-maxillaire en dedans du nerf auriculo-temporal. Elle rejoint le nerf lingual pour aller se distribuer aux glandes salivaires et à la muqueuse de la partie antérieure de la langue.

Le Facial nous intéresse non seulement par la corde du tympan que nous venons de décrire, mais encore par les filets qu'il fournit au ganglion otique, au nerf auriculo-temporal, au glosso-pharyngien et au pneumogastrique.

Le ganglion otique réalise presque une synthèse des fibres sensibles, sécrétoires et motrices qui participent au syndrome.

Il est situé sous le trou ovale, entre le nerf maxillaire inférieur et le péristaphylin qui le sépare de la trompe d'Eustache.

Il reçoit des fibres du nerf maxillaire inférieur (motrices et sensibles) du facial par l'intermédiaire du petit pétreux superficiel (racine motrice), du glosso-pharyngien par le petit pétreux profond (racine sensible et parasymphatique) et enfin du plexus périartériel de l'artère méningée moyenne (sympathique).

Les voies efférentes s'anastomosent à l'auriculo-temporal, d'autres vont à la muqueuse de la caisse du tympan, au muscle du marteau et aux péristaphylins.

Ces notions d'anatomie suggèrent les troubles qui peuvent résulter de la compression de ces différents troncs nerveux.

Les modifications de l'articulation temporo-maxillaire dans les articulés trop bas entraînent aussi des déplacements des tissus mous qui se transmettent directement à la partie membraneuse de la trompe d'Eustache, d'où troubles fonctionnels du côté de l'oreille.

Il existe enfin une théorie musculaire (Seaven) qui rend compte aussi de troubles de l'oreille.

Cannon a montré que les muscles de la mastication, temporaux, masseters, ptérygoidiens, ne sont pas fatigables par un travail normal. L'articulé mauvais entraîne une fatigue des muscles et excite les centres des muscles moteurs V et VII. Cette excitation exagérée des centres du V et du VII agit sur tous les muscles qui en dépendent, non seulement les masticateurs mais encore d'autres dont l'action inopportune et inadéquate provoque des troubles pathologiques du côté de l'oreille, ce sont le muscle du marteau, le péristaphylin interne (innervés par le V) et le muscle de l'étrier (innervé par le VII).

Le muscle du marteau ou tenseur du tympan reçoit son innervation du maxillaire supérieur, soit directement, soit par l'intermédiaire du ganglion otique. La même origine embryologique que les muscles de la mastication fait que son action synergique est des plus facile. Dans le cas pathologique qui nous occupe, elle entraîne des modifications des réflexes cochléaires. Davis a montré par le procédé des courants cochléaires de Wever et Bray ce rôle du tenseur du tympan.

Les muscles péristaphylins (dont l'innervation motrice dépend du V et du X) ouvrent la trompe d'Eustache et entraînent des bourdonnements et de la surdité. On connaît d'ailleurs des cas de contraction volontaire par ouverture forcée de la bouche, et qui provoquaient les mêmes troubles.

Enfin le *muscle de l'étrier* (innervé par le facial) recevant des excitations de cet ordre, provoque des bourdonnements intermittents sous forme de souffle. Il existe d'ailleurs des sujets qui peuvent les provoquer à volonté par une crispation des muscles de la face.

Pour résumer toutes ces théories pathogéniques, il est bon de faire un classement.

La théorie de l'irritation méningée est possible mais non vérifiée (il existe une vieille observation de Lannelongue). La théorie d'une irritation des centres provoquant une hypertension labyrinthique ne nous paraît pas digne d'être soutenue. La théorie musculaire est possible mais n'explique que les troubles de l'oreille. La compression de la trompe par voisinage a été prouvée dans certaines observations. La compression de la corde du tympan est plus importante (la glossodynie est un symptôme fréquent). La compression de l'auriculo-temporal est la plus simple et la plus plausible; l'existence des nombreuses anastomoses de ce nerf peut expliquer tous les symptômes.

Nous n'avons voulu négliger aucune théorie. Notre préférence va aux dernières parce que ce sont elles qui expliquent les symptômes qui guérissent le plus facilement par un traitement adéquat.

Avant de passer à la thérapeutique disons un mot du *diagnostic*. Le diagnostic est simple. Il suffit de songer si vraiment le ou les symptômes relèvent du syndrome de l'articulation temporo-maxillaire.

Il faut procéder à un examen des dents, bouche ouverte et bouche fermée voir s'il en manque, si elles ne sont pas usées, si leur articulé est bon. L'examen des surfaces masticatrices des dents montrera souvent des traces polies d'usure. Le mieux est d'ailleurs de confier, dans le doute, cet examen à un stomatologiste averti.

Cela étant fait, examiner par le palper les deux articulations temporo-maxillaires qui sont douloureuses, souvent crépitantes, examiner aussi la course du condyle du maxillaire qui vient trop en arrière la bouche fermée, pas assez en avant la bouche ouverte.

La *radiographie* montrera les mêmes signes. Mais elle est difficile à bien faire et difficile à interpréter. Elle doit être faite bouche ouverte et bouche fermée pour chaque côté. Les incidences doivent être comparables. Ernst et Costen ont imaginé une technique pour l'obtention de clichés symétriques. On peut se contenter de l'incidence de Schuller bien connue pour la mastoïde. Le Dr Dumont nous a donné de bonnes radios où les deux articulations sont de profil sur la même plaque. Enfin la tomographie est le procédé *up to date*. Notre ami Seuntjens a réalisé de beaux clichés.

La radiographie de l'articulation temporo-maxillaire renseigne sur la forme et les mouvements du condyle dans la cavité glénoïde, mais encore sur l'espace clair qui correspond au ménisque. L'amincissement ou la luxation en avant de celui-ci est caractéristique du syndrome. L'image pathologique est donc la suivante: bouche fermée, le condyle est collé à l'os tympanal sans interposition d'espace clair, il est remonté apparemment vers le fond de la cavité glénoïde. Bouche ouverte, le condyle touche en arrière la tubérosité zygomatique antérieure; dans cette position il subsiste souvent entre les deux une trace de ménisque décelable par un trait clair plus ou moins gros.

Le diagnostic est confirmé par l'épreuve du traitement.

Le *traitement* consiste à corriger, temporairement ou définitivement, le mauvais articulé ou bien encore à agir directement sur l'articulation en particulier sur le ménisque. On peut combiner les deux.

Le traitement est la rondelle de Costen: tranche de bouchon mise entre les dents qui subsistent. Selon Costen il suffirait de 2 millimètres; nous la faisons généralement plus épaisse. Le traitement donne un résultat rapide à condition que le patient soit docile et garde cette rondelle en place quelques heures par jour. Le plus

souvent la guérison subsiste pendant un certain temps même sans emploi de la rondelle et il suffit de la replacer pendant un temps plus court à la moindre alerte.

Ce traitement est le plus simple, le plus pratique et souvent il est le seul possible chez des malades le plus souvent d'un certain âge chez lesquels le traitement orthopédique est souvent difficile.

On peut en effet mettre une prothèse avec élévation temporaire ou définitive si cela est possible. Cette prothèse peut porter uniquement sur les molaires ou bien venir doubler en quelque sorte toutes les dents. Cette dernière façon de faire sera réservée aux malades peu disciplinés pour mettre une simple rondelle.

Ces prothèses sont souvent difficiles et on doit se résoudre à enlever toutes les dents restantes pour faire une prothèse totale avec un articulé parfait.

Un point important est de vérifier la valeur des prothèses existantes au point de vue articulé. Souvent un mauvais bridge trop bas, ou même trop élevé (dans ce cas il entraîne un abaissement de l'autre côté), une prothèse incomplète est la cause de tout le syndrome.

La pratique a montré que dans la plupart des cas il ne faut pas recourir nécessairement aux prothèses pour voir cesser les symptômes. La correction temporaire la plus simple suffit pour faire disparaître les phénomènes de stase et pour mettre les muscles au repos.

Enfin une thérapeutique exceptionnelle est celle de la résection d'un ou des deux ménisques. Ce traitement est réservé à ceux qui résistent au traitement non sanglant. Ce sont ceux où la destruction, ou la luxation en avant du ménisque, a créé une véritable lésion articulaire qui relève de la chirurgie.

Ces cas sont ceux où l'articulation est particulièrement douloureuse et où il existe des douleurs brusques au cours des mouvements de la mâchoire. Il y a là une symptomatologie un peu comparable à celles des ménisques du genou.

La technique de l'intervention est simple: incision de Dufourmentel, c'est-à-dire par deux traits en V dont un est vertical en avant du tragus l'autre dirigé à 45° en avant; l'angle inférieur du V en peut se trouver, plus bas que le conduit auditif de crainte de couper des filets du facial. On recherche la capsule qui est ouverte et on retire le ménisque ou ses débris par une dissection rendue prudente par le voisinage d'organes importants et en particulier de l'artère maxillaire interne. Les résultats sont bons.

Une pratique de deux ans et demi nous permet de faire plus que de la diffusion et d'apporter la garantie de notre expérience. Nous avons ajouté quelques éléments personnels, notamment au point de vue radiographique, prothèses temporaires et surtout sur le rôle du ménisque et son traitement chirurgical.

Coup d'oeil sur le passé . . .

On me demande de démontrer l'évolution de notre profession depuis vingt ans. Certes, il y aurait un magnifique travail à faire et peut-être une splendide leçon à tirer de cette étude, mais il faut pour cela des qualités d'historien, du temps pour rassembler tous ses souvenirs, consulter beaucoup de documents et de personnages. Or, malheureusement tout cela me fait défaut.

Curieuse chose que l'évolution dont on devrait dire qu'elle n'est rien autre que le retour en surface de vieilles connaissances dont on a changé le nom et le vêtement. Les anciens avaient peut-être bien raison de dire: rien de nouveau sous le soleil. C'est presque fatal, ce que l'on a gagné dans une direction est perdu dans l'autre.

Déjà mon lecteur inquiet se demande si je ne vais pas nier tout progrès. Rassurez-vous, toute époque a eu son bon côté et si comme moi vous avez bien connu la dentisterie d'il y a 20 ans, fermez les yeux, faites-vous en un personnage qui dans la rapidité de la pensée se transforme pour devenir ce qu'elle est en 1943, et vous vous exclamerez: comme tu as changé.

Qu'est-ce donc qui a tant changé? Le matériel et les méthodes, c'est certain mais ne serait-ce pas une grave méprise d'oublier que l'évolution la plus importante des derniers 25 ans fut celle du professionnel lui-même? En effet rappelons-nous sans remonter à la découverte des Amériques, quelle préparation et quelle formation suffisaient à l'étude de la dentisterie, quel enseignement recevaient les candidats d'alors. Nous ne serons plus surpris de voir tant d'évolution, en dentisterie opératoire, en couronnes et ponts, en prothèse, en anesthésie et en chirurgie buccale.

Sans doute il y a vingt-cinq ans la plupart des professions ne se montraient pas très exigeantes à l'égard de leurs candidats mais encore réqueraient-elles au moins un minimum de savoir. Outre le baccalauréat on acceptait facilement un brevet plus ou moins sérieux et les corps professionnels s'aperçurent bientôt de l'insuffisance d'une telle préparation. Aussi ne tardèrent-ils pas à donner aux brevets l'équivalence du baccalauréat. Mais chez-nous, quelles luttes homériques, il fallut pour en venir là. Puisque c'est du passé n'insistons pas et pour bien montrer l'évolution contentons-nous, puisque c'est de l'histoire, de rappeler ce que disait un document adressé par un professeur au Recteur du temps: "Des mon entrée à l'Université, je fus souverainement étonné d'y rencontrer un si grand nombre d'individus qui n'eussent pas dû être tolérés dans une pareille institution. Après une petite enquête, je me rendis bientôt compte que je m'étonnais fort gratuitement puisque pour être admis dans cette maison d'enseignement supérieur, toutes les préparations étaient jugées bonnes. Y pouvaient entrer des étudiants de tous les degrés d'instruction et d'éducation." C'est bien en effet ce que nous avons tous constaté jusque vers 1935 et pour ne citer que quelques cas, n'est-il pas à la connaissance de tous que de nombreux élémentaires, syntaxistes ou méthodistes ont, sans la moindre difficulté, franchi le cycle des études universitaires et décroché un doctorat. Nous en avons même connu un qui avait fait les bancs de trois collèges classiques sans parvenir à terminer avec succès la syntaxe latine et nous nous demandons encore par quel prodige il put en quelques mois décrocher un brevet, devenir confrère de plusieurs bacheliers et même "Docteur". Bien plus, d'autres ne se donnaient même pas la peine de s'inscrire à un cours quelconque et de l'école primaire entraient tout droit à l'Université même après avoir échoué en sixième élémentaire. Et, continue l'auteur du document: "Je ne tardai pas à m'apercevoir que si l'entrée à l'Université était facile, la sortie avec parchemin paraphé ne l'était pas moins. C'est à cette allure que pendant longtemps on fit des professionnels avec n'importe qui, j'allais dire n'importe quoi tant il s'en trouvait aux antipodes mêmes de toute culture."

N'est-ce pas suffisant pour expliquer le mal dont nous souffririons encore sans la

bienfaisante évolution subie par notre profession. Depuis 1934 tous les candidats doivent être bacheliers ou l'équivalent. Si tous ne deviennent pas le professionnel idéal désiré par la population, celle-ci ne devra s'en prendre qu'au sujet lui-même ou à l'enseignement qu'il a reçu.

En effet l'enseignement: voici bien un autre champ où l'évolution a dû jouer considérablement. C'est une conséquence ou un complément nécessaire à l'évolution du candidat lui-même. Car ce n'est pas tout d'avoir avec succès terminé son cours classique. Il faut que le sujet dans ses études universitaires se trouve en face de professeurs qui n'ont pas nécessairement fait un succès financier de leur pratique mais ont amplement de culture et possèdent à fond le sujet de l'enseignement dont ils détiennent la chaire. Nous savons que les programmes ont été considérablement modifiés mais pour prouver qu'il y a eu progrès, là comme ailleurs, ne nous faudrait-il pas étudier les divers départements de l'enseignement, montrer la valeur des hommes qui en occupent les postes? Car l'enseignement ne vaut pas seulement à cause de son programme mais surtout par la valeur de ses professeurs. Or, comme cette question semble âprement controversée, ne vaut-il pas mieux pour le moment, sans blesser la modestie de quelques-uns ou froisser inutilement les autres, laisser au temps et à l'histoire le soin de décider s'il y a eu progrès ou recul dans ce domaine? En attendant constatons avec plaisir quelle véritable évolution progressive s'est accomplie chez le praticien grâce à la fondation des Sociétés dentaires, de revues scientifiques et à la tenue régulière des congrès, etc. Notons, toujours en passant vite, que notre profession semble avoir définitivement perdu cette apparence de commerce public que lui donnaient certains annonceurs.

La dentisterie opératoire est peut-être la partie de notre pratique quotidienne qui a subi les changements les moins radicaux. Et pourtant quelle amélioration dans les traitements des dents! Plus de porcelaines artificielles capables de dévitaliser 80% des dents, plus d'affreuses restaurations en amalgame ou en or des dents antérieures! Qui songe encore à faire des aurifications? Oh! l'agréable maillet automatique! Que de cavités préparées aujourd'hui sans douleur grâce à l'anesthésie régionale! Rappelez-vous les fameuses dents à pivot qu'on appelait Richmond ou Logan. La porcelaine même pourtant connue depuis longtemps n'existait déjà plus en 1915 et quand vers 1920 je tentai de ressusciter la coiffe de Land, c'est à New-York qu'il fallait envoyer ses impressions. Lorsqu'au premier congrès je donnai ma première conférence sur la céramique, les auditeurs furent si nombreux que la salle, pourtant vaste, ne put tous les contenir tant le sujet semblait nouveau. Vingt ans à peine et la couronne de porcelaine semble bien définitivement morte et avantageusement remplacée.

A cette époque, toute dent atteinte d'un abcès devait être extraite. Que de guérisons merveilleuses et quelques fois étonnantes n'obtient-on pas avec l'ionisation et la chirurgie! Finies les tentatives de redressement des dents pour arriver presque toujours à un désastre! L'orthodontie bien comprise aujourd'hui fait des merveilles incroyables.

En prothèse complète ou partielle, c'est tout un chapitre qu'il faudrait écrire. Entraîné par divers motifs on posait à profusion des couronnes et des ponts, si bien que la profession médicale effrayée par les dégâts de ces pauvres restaurations en vint à croire et à répandre dans le public l'erreur grossière que l'or est un poison dans la bouche. L'apparition des métacrylates dans ce domaine semble bien la découverte la plus extraordinaire de ces derniers temps et dans peu d'années tout cela disparaîtra probablement pour faire place à d'autres éléments aussi périssables. C'est l'évolution.

ALCIDE THIBAUDEAU

Acryliques

Questions et Réponses par DR. MAURICE STERN
Traduction du DR. A. THIBAUDEAU

Question—J'ai un patient dont les six dents antérieures du maxillaire supérieur présentent cet état désespérant d'être toutes espacées d'une façon inusitée. Ces dents sans carie sont bien placées sur la crête et dans leur axe. Les latérales ont la forme d'un fin stylet, canines et centrales sont normales.

Les dessin ci-inclus vous donne une idée de l'anomalie des espaces (selon les mesures) entre les dents.

Réponse—Quand l'articulation et l'enlignement des dents sont normaux, c'est une affaire relativement simple de projeter la construction d'une ou plusieurs coiffes ou d'un pont.

Ce qui donne du trouble à plusieurs d'entre nous, c'est le cas d'un diastème ou plus, ou de dents divergeantes.

Prenons le cas préposé de six dents antérieures mesurant 52 m.m. de la face externe de la canine gauche à la face externe de la canine droite en suivant la courbe de l'arche. Il y a cinq diastèmes dans le groupe (fig 7). Voici les mesures des dents, en question centrales 8.5 x 13—

Latérales (en forme de chevilles).
4.25 x 12 et les canines 9 x 14.5 m.m.
L'ensemble des diastèmes donne 3.5 m.m.
Au centre 1.5 m.m. entre centrales et latérales 1 m.m. et de même entre latérales et canines.

Ce n'est plus un problème simple. Le premier pas à faire, c'est l'appréciation de la situation à l'aide de modèles et de diagrammes d'étude. La figure 1 semble inviter à l'extraction: 1°—ou des centrales et la restauration de l'esthétique à l'aide

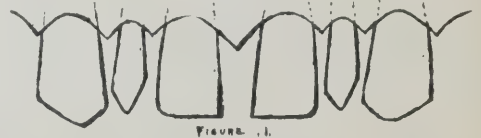


FIGURE 1.

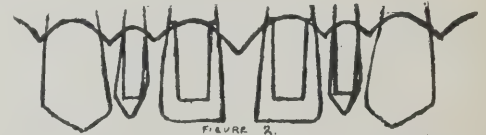


FIGURE 2.

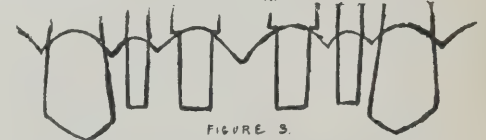


FIGURE 3.

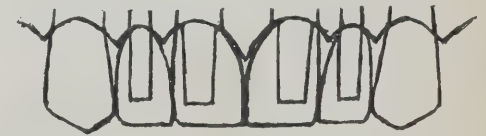


FIGURE 4.



FIGURE 5.

FIGURES 1 TO 5.— DIAGRAMMATIC PLANNING, FOR CORRECTION OF MULTIPLE DIASTEMAS WITH ACRYLIC JACKET CROWNS.

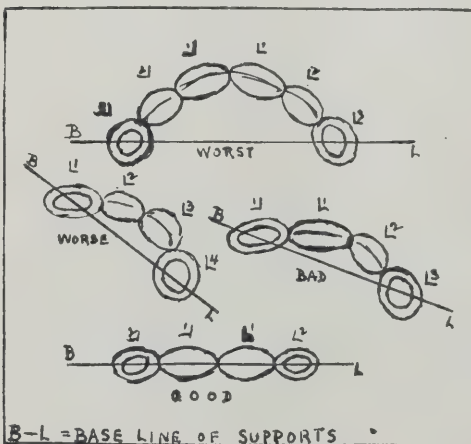


Fig 6—Prognostique relatif aux ponts—quand l'ensemble est projeté en dehors de la ligne de bas des culées.

d'un pont appuyé sur les latérales. Où encore des quatre incisives et leur remplacement par un pont sur canines.

Dans le premier cas, ce serait une surcharge pour les racines des latérales styloïdes, et aucune assurance de durabilité. Deuxième cas: un pont d'une canine à l'autre avec la force considérable d'un levier sur les culées parce que l'ensemble des dents intermédiaires se projettera au centre de plus de 8 m.m. en dehors de la ligne de base des culées (fig 6).

En pesant le pour et le contre dans chaque cas—on arrive à la conclusion qu'aucune dent doit être extraite. Les centrales seront préparées pour coiffes avec épaulement et les latérales pour coiffes sans épaulement (figs 2,3,4,5,).

La centrale et la latérale de gauche seront recouvertes de coiffes en arcylique reliées ensemble. De même à droite. Ce procédé est recommandable parce que l'espace entre les centrales, et les latérales est trop restreint pour y poser des coiffes individuelles.

Cela, je crois donnera les meilleurs résultats, esthétiques, et plus de durée avec le moins de destruction de tissus dentaires.

La figure 5 montre l'esthétique d'une telle procédure.

Toute question devra être adressée:—

Dr. Maurice N. Stern —114 —06 Queens Boulevard,
Forest Hills,
New York, U.S.A.

L'anglicisme chez le dentiste

L'anglicisme est courant chez nous. Il est employé par habitude, par paresse, je n'ose pas dire par ignorance, sachant que le plus grand nombre des dentistes ont fait leurs humanités. C'est pourquoi je veux marquer du doigt certaines fautes qui seraient pardonnées plus facilement à des ouvriers qu'à des dentistes.

Professionnel

En parlant des avocats, des dentistes, des médecins, des notaires ne dites pas des professionnels du mot anglais PROFESSIONAL mais des hommes de professions libérales, de carrières libérales.

Un professionnel est un homme qui gagne sa vie d'une chose, d'un sport: Le professionnel de la boxe, de la lutte, etc. C'est le contraire d'un amateur. Dites les usages du métier, de la profession au lieu de "*les pratiques professionnels*" (professional practices). Dites conduite contraire aux usages de la profession de dentiste, de médecin, de l'homme de loi au lieu de "*conduite qui n'est pas professionnelle*" (conduct that is not professional). Dites consulter un homme de métier, de carrière, de profession au lieu de "*prendre des conseils professionnels*" (professional advises).

Buccal

"Oral prothesis" se traduit par prothèse buccale et non pas par prothèse orale comme nous le voyons souvent imprimé. Oral veut dire "qui est dit, qui est fait de vive voix." Buccal veut dire "qui appartient à la bouche."

Denture—Dentition

Le journal de l'Association Dentaire Canadienne du mois de septembre 1942, a publié un article expliquant ces deux mots qui ne sont pas synonymes et que certains dentistes à la radio confondent.

DENTURE, désigne l'ensemble des dents d'un individu. DENTITION, désigne un ensemble de phénomènes biologiques échelonnés dans le temps, sur un espace de plusieurs années.

Troubles oculaires d'origine dentaire

Par S. A. BALFARDA

L'auteur distingue deux types d'infection dentaire capables de produire des lésions oculaires:

1° Le type aigu, constitué par la pulpite, la périodontite et la fluxion, qui a peu de gravité, se découvre facilement à l'examen clinique. La lésion oculaire qu'il peut produire disparaît presque toujours avec la cause, sans laisser de complications;

2° Le type chronique, formé par les processus apicaux (granulomes, ostéites) et par la pyorrhée alvéolaire. Est de plus grande importance pathologique que le premier et constitue actuellement une partie du problème de l'infection focale.

Les processus apicaux sont des lésions chroniques, silencieuses, qui ne se voient pas toujours à l'examen clinique et qui font parfois douter de leur existence.

Pour provoquer des troubles oculaires, l'infection focale peut emprunter quatre voies:

1° Osseuse et périostique;

2° Sanguine: veineuse ou artérielle;

3° Nerveuse;

4° Lymphatique.

Le diagnostic est d'autant plus difficile que l'infection dentaire est moins apparente, seule la radiographie permet de l'établir de façon certaine.

Conseils Pratiques

—Recueillis par A. AMOEDO—

Anesthésie Pulpaire—Lorsqu'une corne de la pulpe est mise à nu, une façon simple de faire l'anesthésie, au lieu de mettre un pansement nécosant ou de faire une anesthésie tronculaire, consiste à mettre un peu d'une solution de novocaïne à deux pour cent en contact avec la pulpe. On obtiendra ainsi une légère anesthésie, qui permet d'agrandir l'orifice de la chambre pulpaire, de façon à faciliter l'introduction d'une aiguille hypodermique.

Deux ou trois gouttes de solution à deux pour cent injectées directement dans la pulpe suffisent pour que l'on puisse l'enlever sans douleur. Pas d'irritation organique, pas de complications post-opératoires, pas d'hémorragie secondaires. (Revista dental de Chile.)

Le Lait de Magnésie Employé comme Hémostatique—Dans les hémorragies dentaires, aussi bien pour celles qui ne se tarissent pas par première intention on obtient d'excellents résultats en tamponnant la plaie avec un coton imbibé de lait de magnésie. Le patient doit maintenir ses mâchoires serrées durant quelques minutes. (Dental Journal of Australia.)

Pour Retoucher les Appareils de Prothèse—Pour trouver facilement l'endroit blesant d'un appareil de prothèse, on enduit la base d'une pâte faite avec du blanc d'Espagne, ou de l'oxyde de zinc. En retirant l'appareil de la bouche, on voit les points qu'il faut retoucher. (Revista dental de Chile.)

Hyperesthésie de la Dentine à la Face Cervicale—La sensibilité exagérée de la dentine des caries cervicales cède à l'application dans la cavité d'une solution concentrée de bicarbonate de soude dans la glycerine. (Revista dental de Chile.)

Blanchiment des Dents—La solution de pyrozone à 25% blanchit les dents teintées. Après obturation du canal radiculaire on dépose dans la cavité une boulette de coton imbibé de pyrozone, et l'on obture avec du ciment. On laisse le médicament agir durant 2 ou 3 jours, on enlève la boulette, et on obture définitivement.—

-- And So Should You

*The camel, at the close of day,
Kneels down upon the sandy plain
To have his burden lifted off
And rest again.*

*My soul, thou too shouldst to thy knees
When daylight draweth to a close,
And let thy Master lift the load
And give repose.*

*The camel kneels at morning's dawn
To have the guide replace his load—
Then rises up anew, to take
The desert road. . .*

—WHEATON ANTHOLOGY



DR. A. J. BRETT
Regina, Saskatchewan
Secretary-Registrar, Dominion Dental
Council of Canada.
Past President of the College of Dental Surgeons
of Saskatchewan.
Past President of the Saskatchewan
Dental Association

The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 10

TORONTO, APRIL, 1944

NO. 4

Biochemistry in Relation to Dentistry*

by DAVID L. THOMSON, Ph.D., F.R.S.C., Montreal, Quebec
Professor of Biochemistry and Dean of the Faculty of Graduate Studies and
Research, McGill University

IT HAS to be acknowledged that Biochemistry has not yet justified, by practical contributions, its place in the foundation of the edifice of Dentistry; or at least, that that place is a less important and less honoured one than its place in relation to Medicine. Only a few years ago, the Curriculum Committee of the American Association of Dental Schools spoke of the "future developments" of physiological chemistry "which *may* prove to be of value in the practice of dentistry." The italics are mine, but the implied depreciation of any present contributions is the Committee's. Yet everybody believes that the developments referred to will take place, and that in time dentistry, especially preventive dentistry, will lean as heavily upon biochemistry as does any other branch of the healing art. The delay in establishing such a *rapprochement* is doubtless due to the fact that relatively few dentists take much interest in biochemistry, and few biochemists have any real knowledge of dentistry. This in turn may be due to the exceptional nature of the dental tissues. We have now a vast fund of information about the details of the major chemical activities of typical soft tissues: the manner in

which oxygen is consumed and carbon dioxide produced in the liberation of vital energy, the manner in which constituents are exchanged between living cells and the tissue fluids which bathe them, the manner in which protein fibres and other solid scaffolding structures are continually torn down and rebuilt: but all these are processes in which the dentine takes but little part, and the enamel none. Even the pathology is fundamentally different: where can we find an analogy to the carious process?

It is easy, of course, to overemphasize dentistry's independence of biochemistry; for instance, the soft tissues of the mouth can not be neglected. There are biochemical approaches to problems of practical importance in all branches of surgery, not excluding dental surgery: such as biochemical changes in anaesthesia, the biochemistry of blood coagulation, or of the spread of infection from traumatized areas, the biochemical approach to problems of immunology and antiseptics. These, however, are perhaps rather special cases, not fundamental to either biochemistry or dentistry.

The aspect of biochemistry which seems likely to have the greatest in-

*Lecture delivered at the Fall Clinic of the Montreal Dental Club, October 20, 1943.

terest and importance for dentistry is the sub-science of nutrition. It is perhaps well to recognize that the subject of nutrition has very wide ramifications, not all of them biochemical. Study of the chemical nature and physiological function of the vitamins, measurement of them in foods or tissues or blood, and so on—these are truly biochemical problems; but to apply nutritional findings in practice one needs some knowledge of the complex technology of the food industries, of the capacities and limitations of agriculture and other food-sources, of the economics of distribution and consumption, of dietary habits, and so forth. Nutrition, despite its wide popularization, has become a very confusing subject to the non-specialist. The list of vitamins and essential minerals grows longer year by year; systems of nomenclature are revised; the number of different foods on our markets has become so enormous that no one can remember the composition and peculiarities of each one. Vitamin quantities are expressed in various ways, sometimes in units with a complex and arbitrary definition, sometimes in weights so small (micrograms) as to be unfamiliar and impossible to visualize. There are other difficulties. Nutritional investigation has advanced very rapidly in some directions, occasionally without absolutely insuring the logical stability and inevitability of its lines of communication with first principles; not all of its practitioners are truly critical. The whole subject is haunted by the bogey of the word "average": the average potato that contains so many micrograms of vitamin C, the average cook who destroys such a percentage thereof, the average man who eats so many average potatoes daily and who requires such-and-such a quantity of vitamin C in every average week. We are familiar with the mythical nature of the average man—he has one and one-sixth children under 21, for example; we are perhaps less accustomed to the

idea that the average potato is just as much of an unreal statistical abstraction. Yet so it is; and these things make it hard to apply nutritional knowledge securely to the case of John Jones and the potato he bought yesterday. The difficulties of the subject of nutrition are therefore great; and it has seemed wise to me to avoid detailed discussion of discrete points, and to emphasize rather half-a-dozen general principles which may be thought to underlie the expanding and glittering superstructure of catchwords and slogans.

It must never be forgotten, for example, that the primary purpose of the food is to supply energy. It is a temptation to forget this, partly because other purposes such as the supply of vitamins seem more fashionable and spectacular, partly because in countries like ours food is nearly always fairly satisfactory from the energy point of view. Yet it remains true that the most sudden and violent of the deficiency diseases is starvation, a deficiency of calories; and that hunger and appetite do not always signalize it. It is perhaps worth recalling that a very active man, a soldier on active service for example, will require some 4000 calories a day; that the most concentrated form in which 4000 calories can be supplied is a pound of lard, and that any really edible ration would be much bulkier again. Hence the dreams of "a small tablet of highly-concentrated food" as a complete ration are fantastic as far as calories are concerned, though the necessary minerals and vitamins could be supplied in some such way.

This distinction may serve to remind us of a second fundamental principle about food, that it must supply not only calories, distributed in appropriate proportions (dictated largely by dietary custom) between carbohydrate, fat, and protein, but also adequate amounts of each of some ten mineral elements and some twelve to fifteen organic vitamins: not all of which are adequately

represented in any one food.

It is customary, in considering a diet or ration, to examine its adequacy for each nutrient separately: does it furnish a sufficiency of calories, of calcium, of vitamin A? we ask, and we obtain a series of independent answers. Yet there is reason to believe that nutrients have their interactions and interrelations and cannot be considered merely on this piecemeal basis; the total nutritional value of diet may be greater or less than the apparent sum of all its parts. The amount of fat present may influence the adequacy of the amount of calcium, or of thiamine (vitamin B₁) supplied; the value of the diet as a source of vitamin A depends in part on the amount of vitamin E present; and so on. We must also remember, under the general heading of interrelations, two important points: the first, that the outstanding clinical symptoms of one deficiency may be indistinguishable from those of some quite different deficiency; the second, that the full-blown development of the symptoms of one type of deficiency may completely mask and conceal the presence of a second deficiency lurking in the background and becoming manifest only when the first is cleared up by specific therapy.

It is useful to recognize, especially for the vitamins, a series of dose-levels or daily intake levels. At the bottom of the scale are intakes so low as to give rise to clinically-recognizable deficiency disease (e.g., less than 150 units of B₁ per day for an average adult). Next above these come the levels of what I have elsewhere termed the "nutritional twilight", the regions corresponding to sub-clinical deficiency: intakes large enough to prevent frank disease, but inadequate to make the maximum contribution to the full health and vigour of the body (e.g., 200 to 400 units of B₁ per day). Enormous efforts have been made to establish chemical or physiological tests permitting the identification of this handicapped condition in individuals, but so

far with very indifferent success; that it does exist, in an alarmingly large proportion of our population, may be taken as a statistical fact. Above this again we have the levels of optimal nutrition, where the nutrient is supplied in quantities so large that further enrichment will make no further contribution to the well-being of healthy persons. At a still higher level are the doses used in the treatment of diagnosed deficiency disease, to restore the depleted vitamin-stores of the patient to a normal level: in severe cases of pellagra, for instance, the body's immediate requirements may be too large to be met even by the most vitamin-rich foods, and it may be necessary to supply the pure synthetic nicotinic acid (niacin) until recovery is in sight. For some vitamins, we may identify a still higher dosage level: these are substances which appear to possess valuable pharmacological properties, and which can be used as therapeutic agents of promise in conditions which are not of nutritional origin at all; for example, B₁ is used in doses up to 25,000 units daily in the treatment of various non-nutritional types of neuritic pain. It seems well to urge at this point that when vitamins are used in this way their desirability should be scrutinized just as jealously as if they were synthetic drugs unknown in Nature, since such dose-levels can hardly be regarded as in any way "natural". Nevertheless, it is true in general that the toxic level of vitamin dosage is in most cases exceedingly high; although accidents have occurred, the danger level is usually so far above the level of nutritionally-optimal intake that there is a wide intermediate zone in which therapeutic possibilities can be explored. This is not true of all the essential mineral elements (e.g. fluorine or iodine or manganese) as it is of most vitamins, though the former are as "natural" and as essential in small amounts as the latter.

As a fifth general principle, we may consider the rule that in modern urban

communities the foods which are cheapest per calorie are those which are handled most easily, in transportation and storage, and with least risk of spoilage. I regard this as an inevitable economic consequence of the development of urban communities, and one which can only be offset by artificial interventions such as subsidies. Its nutritional importance resides in the fact that these cheap foods (which include lard, sugar, white flour, macaroni, salt pork) have for the most part been subjected to fairly elaborate manufacturing processes, which have in general tended to deprive them of much of the mineral and vitamin value they originally possessed. This is in part accidental and remediable, since the food-processing methods were developed before we gained our present knowledge of vitamins: but some foods owe their stability and cheapness directly to their purity and freedom from vitamin values. Restoration of vitamins abstracted in processing by subsequent addition of synthetic products has a wasteful appearance, and at present is not a complete answer since not all vitamins are available in synthetic form, or at sufficiently low cost.

We have here, then, a complex of economic and processing and nutritional factors which would lead us inescapably to the conclusion that, in any industrialized and urbanized nation, the poorer people are likely to consume diets which (though possibly adequate in bulk and in calories) are likely to be deficient in various minerals and vitamins; because the foods which have a favourable vitamin-to-calorie ratio will tend to be more expensive than those which do not. That this conclusion is correct, it is impossible to doubt: though it may be hard to demonstrate in the individual, as has been said, yet it is statistically clear that many (perhaps one-third?) of our fellow-citizens subsist on diets which do not furnish optimal intakes of every nutrient. This view is not based merely

on dietary surveys, which show that many families do not attain the intakes regarded by nutritionists as desirable; it is based also on innumerable demonstrations that there is a "social gradient of incidence" of subnormal growth-rate and of several important diseases (such as rheumatic fever) which may be influenced by the quality of the diet; and it is based also on many demonstrations of improved growth and health resulting from the addition of vitamin-rich foods to diets hitherto regarded as commonplace and reasonably satisfactory. This general rule, that vitamin intake tends to increase with increasing income, may lead us to regard with some doubt the theory that caries is primarily a nutritional deficiency: since it does not appear that caries displays a social gradient of incidence if we allow for different levels of dental care.

The relation between income and nutritional status is a logical, but surely not an inevitable and unchangeable one. We know that many families can be taught to expend their food-dollars to better advantage than they do now. Some at least of the accepted food-processing methods could be altered in the light of modern knowledge; and in some cases the synthetic vitamins may have a real place. There can be stimulation and encouragement of the production of vitamin-rich crops; and those of us who are not too frightened of the bogey of bureaucracy may contemplate an enlargement and extension of the policy of subsidizing particularly valuable foods to bring them within the reach of every consumer. We see this policy at work on a rather small scale (milk, oranges) in war-time Canada, on a much larger scale in war-time Britain. The mention of Britain in this connection should at least warn us against undue pessimism. Think only for a moment of the trials of the overcrowded, food-importing island: with important larders like Denmark, Holland, Java, in enemy hands, with shipping routes inter-

rupted and shipping space at a premium, with a desperate shortage of manpower to work its own scanty acreage; short not only of food for its people but of feed for its animals and fertilizer for its fields. Yet they can boast that at least a third of the people, the poorest third, are getting not more food but better food than before the war, as a

result of the vigorous policy of equalizing distribution at whatever cost; and this boast is guaranteed by these two sensitive indices of national health, a declining infant mortality and a rising growth-rate of adolescents. What Britain can do in time of war, surely our incomparably more productive continent can do in the days of peace.

The Construction of a Balanced Partial Denture

by F. L. COLE, D.D.S.

Department of Prosthetics, Dental Faculty, University of Toronto

THE building of successful partial dentures involves careful detail in every step in their construction. Certain fundamentals are necessary for a diagnosis such as full mouth x-rays and study models for surveying the correct positioning of clasps and skeleton gold work. One must not forget that when the denture has been completed and placed in the mouth, many things may happen. The denture may need adjustment, rebasing, refitting, before it proves to be a successful one. In giving the following technique I have tried to explain a successful method of impression taking and of balancing the teeth in occlusion for partial dentures.

The first requisite is to obtain a satisfactory impression of the mucosa and teeth of the jaw on which the denture is to be made. The necessity of obtaining an impression of the tissues under slight pressure cannot be accomplished by a straight hydrocolloid or alginate impression. A well-fitting modelling compound tray using alginate or hydrocolloid as a wash gives an accurate impression of the teeth and slight displacement of the tissues, as under biting stress. As hydrocolloid is not obtainable, the new alginates prove very good and are much easier to use.

If you wish to make a balanced

partial denture, it is necessary before taking any impression to adjust all high and interfering cusps of the remaining teeth by grinding, so that a lateral movement of the mandible right and left is possible of at least two mm.

The detail for this Impression Technique is as follows:

Select a suitable tray large enough to leave a space of at least one-eighth of an inch on the labial or buccal and lingual of the remaining teeth for the modelling compound. Mould four thickness of base plate wax over the incisal third of the remaining teeth. It is not necessary to cover single teeth; only those in series (two or more teeth adjacent to one another).

Using a medium fusing modelling compound, and with the wax in position over the teeth, insert the tray with modelling compound in the mouth. Chill and remove. Remove the impression from the tray.

Trim the excess modelling compound and fit a handle of compound or wire to the anterior part of compound tray. Lift out wax and trim compound around any single teeth, giving a well-fitted compound tray with space around all remaining teeth.

In Upper

Mark the hard area and relieve $\frac{1}{8}$ inch deep from the compound over this area. Seat the tray, after adding low fusing compound to the saddle areas. Muscle trim the periphery and post dam at the junction of the hard and soft palate.

In Lower

Flame the compound over saddle area and seat the tray. Relieve over the centre of ridge and muscle trim periphery of saddle areas.

With a large round bur make a number of holes through the compound tray, over the spaces left around the remaining teeth.

Undercut compound in several places to help hold alginate. Make a handle or projection in the region of the first molar on the buccal side of the tray to assist in removing the impression.

Paint the inside of the compound tray with ethyl alcohol; dry with hot air. **Note**—Have the patient rinse mouth out with a cold saline solution. Mix alginate in water about seventy degrees for one and a half minutes, fill spaces for teeth with mix and seat tray with pressure especially over saddle areas.

Remove by breaking suction with pressure downward or upward on the handle placed on the side of the tray. Do not rock. Place in twenty percent manganese sulphate solution for ten minutes. Pour with quick setting stone at once.

We are now ready to register the bite. Build a compound bite block reinforced by a wire to prevent breaking.

Trim the compound block to approximate bite opening in the anterior.

Heat the surface of the compound and have patient close in centric relation to the desired vertical opening. Complete indentations of the opposing teeth are made in the compound.

Chill, remove from the mouth and trim the compound away buccally and lingually for about two mm. leaving only the ridge which pressed into the sulci of the opposing teeth.

Replace in the mouth and have the patient move the mandible to lateral and protrusive relations. Trim any parts of the ridge that interfere with these movements. Remove.

Melt some Utility wax on the compound bite block, prepared as above, and then attach one thickness of this wax. This covers the ridge of compound with about one mm. in excess over the original vertical opening.

Warm wax in water at 120 degrees, place in the mouth and have patient close in centric to the desired opening.

Remove, note if ridge of compound is visible; if so, heat again, replace, and have patient slide the mandible in right lateral, open and then close in centric, slide to left lateral, open, close in centric, slide to protrusive, open, close in centric. Chill.

We now have the paths of the opposing teeth created in the wax.

Mount the cast on an articulator and pour stone into the occlusal tracings in wax, creating an opposing model on the opposite arm of articulator to which set the teeth.

Construct the metal framework necessary for the denture and set the teeth on cast for aesthetics, and occlude to opposing stone model. Paint the stone with Prussian blue mixture in water.

Grind the blue marks left on the teeth after the articulator has been closed, and continue to do so as it is necessary to perfect the occlusion of the artificial teeth with opposing cusp path in stone.

Try in, and check lateral and protrusive excursions. They should balance. Process and finish the case.

Allow the patient to wear for twenty-four hours without adjustments, but request that he do not use the denture to masticate food until after the next visit.

Grind in with carborundum and glycerine for three minutes. It is sometimes necessary to grind one or two teeth that have drifted in curing,

but if care is taken, this is not necessary.

The above technique will give you a good result if you will try it. Remember one thing: tissues change under all dentures, and they will need servicing and rebasing. Have your patient in at regular intervals to check for bite, and settlement, and the den-

ture will then give a better service throughout the years.

For the help and ideas which they have given me, I wish to thank Dr. Lester Boyd of Chicago; Dr. Fred Myers of Minneapolis; Dr. Frank Giffen of London.

Medical Arts Building, Toronto

The Psychology of Handling Patients

by KENNETH M. JOHNSON, Winnipeg, Manitoba

THE subject, "The Psychology of Handling Patients" might be stated better as "The Problem of Handling Difficult Patients". So often it resolves itself into three separate but definitely related problems, first, the problem of handling the difficult dentist, second, the problem of handling the difficult dental assistant, and if these two are successfully met, the third problem, that of handling the difficult patient, frequently takes care of itself.

I know that the first problem does exist—I have been one myself for years. I am glad you did not ask me to discuss that question. The second and third are intimately related and it is about these that I propose to speak this afternoon.

Dentistry is an important health service. You are an important integral part of that service, and with your dentist, in and out of your office, you constitute a *dental health team*. As a well-trained team you can offer a true health effort; as non-co-operative individuals you would lose all advantage and act merely as a brake on what should otherwise be an efficient, smooth-running, health-giving service to your fellow-beings.

If you or I wish to know the correct answer to any question related to the han-

dling of patients we have an infallible rule—one which will never let us down—simply restate the question, if I were the patient how would I wish to be treated under similar circumstances? What would help me? The word "handling" does not give the exact meaning of what we have in mind; the word "helping" is very much better. It applies from the smallest incident to the most difficult occasion. It is true that a proper psychological approach will assist us in helping our patients.

With this as a basis, let us consider some aspects of your vocation in more detail. The simplest and most effective way of handling many unfortunate situations confronting your "dental team" is to avoid them—"by-pass" I think is the popular word at present and the technique is just as effective in the practice of dentistry as it is in military strategy. Many patients are actually made "difficult" by thoughtless conversation outside of the office. Things are often said purposely in your hearing, probably to embarrass you, in what some people think is wit—as an example—Mrs. Smith and Mrs. Jones are at a tea or a red cross meeting—Mrs. Smith knows she requires dental service. She had had several warning

* Presented at the Western Canada Dental Nurses' and Assistants' Association Convention, Regina, Saskatchewan, May 18, 1943.

twinges of pain and of course fears the worst. You come along and she makes some innocent remark about needing an appointment. Mrs. Jones, with a bright laugh, hoping to gain the spotlight, breaks out with, "Oh, these dentists!" "I think they just love to see people squirm!" and then it starts to build up.—Give her a few minutes and Mrs. Smith will be about the most frightened patient you have seen for some time. Now if you are ever going to help Mrs. Smith this is the time. Don't give Mrs. Jones those few minutes. Break right in with, "Oh, Mrs. Smith, you know Dr. Wilson isn't a bit like that. He would feel very badly if he thought that any one could think such a thing. I am sure Dr. Wilson will find some way to make it easy for you." And believe me you have made a friend of Mrs. Smith and, likely, before long, of Mrs. Jones. At least she will be more careful in future.

That is only one example of how you can play for your team outside the office. There are many others. Both inside and outside the office you must be constantly on guard against the "gossiper"; never be one yourself and instantly you meet one, redirect the conversation gently but firmly if necessary. This applies especially to gossip about other dental health teams in your neighbourhood. Remember you will be next on the list and it is pleasant to think that you have been able to repay an unknown kindness to some fellow assistant for the time that she did as much for you. Emerson said, "Good name in man or woman is the immediate jewel of their souls."

Now let us look in at the office. Here your position on the team is not less important. Your successful handling or helping of dental patients depends largely on how efficiently you carry out your tasks. Efficiency impresses any patient.

Briefly I would like to suggest some points that I consider constitute efficiency in helping our patients. It does not con-

sist of dashing here and there; rushing the patients in and out; but rather, in a carefully planned procedure, properly organized, and carried out in a pleasant and dignified manner.

First you are the housekeeper-in-chief. The office must be spick and span, comfortable and attractive, and kept that way at all times. You can check on that much more thoroughly than the other member of your team. See that the magazines are up to date and of course a few good picture books will help you to handle the little ones. A children's corner with a small table and chairs does not cost much but they help to make the little folks feel at home. That is how you would wish it if you were the child. In Edmonton I think I suggested a writing desk in the waiting room equipped with notepaper and envelopes; have a nicely prepared card suggesting that while waiting a patient might write a letter to one of the boys or girls overseas.

Welcome each patient as he or she comes in; call her by name if you are able; everyone likes that. If you have not seen her before, ask, "Did you have an appointment?" If the answer is, "Yes, at 10:30" — look at your appointment book, where you will see the name and say, "Oh yes, Mrs. Smith. Won't you be seated, Dr. Wilson will see you in a few minutes." Then get your pad and pencil and say, "I'll just make out a new chart to be ready for the doctor. What are your husband's initials, Mrs. Smith, and your address? What is your telephone number? Did one of our patients recommend us to you?" Then go to your desk and make out the chart. When ready, go to Mrs. Smith and say, "Dr. Wilson will see you now." When the patient is seated in the operating room you may say, "Mrs. Smith may I introduce Dr. Wilson. One of our patients, Mrs. Blank, has recommended us to her."

Now from time to time you will have an opportunity of discussing dentistry

with these patients. Here, while your discussion must treat the subject only in a general way, your personal study of the current dental literature will be of the greatest help to you. I say in a general way because if it is a question of specific diagnosis, Dr. Wilson will have to be responsible and should be the one to answer. Even such a simple question as what tooth-paste do you recommend, should be answered by, "I'll ask Dr. Wilson what dentifrice he thinks is best for you to use, Mrs. Smith;" and be sure to do so. But you should know and be able to tell Mrs. Smith about the more recent advances in dentistry. You should know the approximate years of eruption of the first and second dentition. Even if Mrs. Smith is 73 she is interested in the new tooth of her fourth grandchild and perhaps knows more about it than you do but you can talk intelligently about it if you have the knowledge.

You should know that bone absorbs more quickly after recent extractions. Dr. Wilson should advise when rebasing of dentures is required in a specific case. Make your discussion intelligent and interesting; you can do this if you study to know what is going on in dentistry; what advances are being made and what benefits we have to offer in health and appearance. Now in your conversation about dentistry both in and out of the office there are certain words which, shall we say, are "taboo". Others, because of their association are certainly not indicated. Not only do some words rather frighten a patient but while their meaning may ordinarily be the same still they do not actually convey to the patient's mind the thought you wish to express.

The author of an excellent book I was reading recently, illustrated this point extremely well. He was writing on the use of the correct word and asked what the reader's reaction would be to the phrase "Mother's Day" if a speaker called it "Ma's Day." The one has a definite

sentimental value; the other is simply laughable; but both are identical in meaning. And so in dentistry we have many words which are similar in meaning but should be avoided. Here are some of them with their counterparts.

Doctor Wilson or the Doctor—never Doc Wilson or Doc; a dental extraction—avoid having a tooth pulled, yanked or jerked; an amalgam or gold restoration—rather than a filling (though this is not so bad) or stopping; a porcelain crown—rather than a "peg tooth"; a local anaesthetic—not freezing or "give it a shot"; a denture or a removable bridge—rather than a plate or store teeth or false teeth; to prepare the cavity or an abutment—not *cut* the cavity; sensitive or very tender—rather than "hurts" or "stings"; "reserve an appointment"—not "make a date".

You can probably think of many more but these will serve as a guide to what I mean and the use of the proper word does help the dental patient to compose herself in undergoing treatment.

Let us return to the psychology of handling patients. We must be considerate of every patient in every way. We must make each patient feel that we hold his or her interests paramount in any arrangement we are making, by just having that interest paramount in our mind at that time. For example, Mrs. Blank requires a rather long appointment for the preparation of jacket crowns; you suggest Wednesday at ten but Mrs. Blank thinks Friday at four would suit her much better. Now you know that four o'clock is a busy hour which will be complicated by many interruptions such as an accumulation of toothaches, dentures to relieve, etc., which always come at that hour. I would think it only fair to explain to Mrs. Blank that the first appointment for jacket crowns is very important and that Dr. Wilson can give her much more consideration on Wednesday morning when he will not be interrupted as he would

be on Friday afternoon. She knows just how important her appearance is and it would be most surprising if she is not willing to co-operate when it is properly explained to her. Put yourself in her place; that is what you would wish just as soon as it was explained to you.

There are so many ways you can help the nervous patient by careful explanations. Have you ever heard a thoughtless friend or even a patient remark, "I believe they just make holes in your teeth." I would suggest a reply along the following lines, in your own words, of course—"Mrs. Smith, in the preparation of a cavity certain essentials are required first; any decay must be removed but in addition if we would prevent further loss of tooth tissue we must extend the cavity to where nature can keep the margins clean, we must remove any undermined enamel or all our effort will be of no avail and we must have some method of retention or the restoration will fall out. That is why the preparation takes longer and seems more thorough than you might expect."

In the short time at my disposal I cannot hope to cover this subject adequately but I would like to offer a few brief suggestions gathered at random which may be of help to you in accomplishing your many devious and difficult tasks. Make a habit of using a calendar pad to remind you of those things you should do. If any laboratory work is required for a certain appointment jot it down on your pad, giving yourself time to see that it is on hand. If supplies are required, arrange beforehand. If you have a really nervous patient arrange the appointment when she will not be kept waiting and it is an excellent idea to advise the dentist that you have done this in order that he will co-operate. You should not allow your likes and dislikes to get the better of you. Every patient is a good patient until proven otherwise.

Do it now. There is more happiness

stored up in that old axiom than we are inclined to believe. This is true of making records or of telephone calls you should make.

Complete your files each night if you possibly can. Tomorrow brings its own problems and if you have left today's to do tomorrow you are surely arranging a busy day for yourself.

"Lack of punctuality is the thief of time." Don't let it be said of your office that you are not punctual if you can help it; I recognise that much of this is, beyond your province but do what you can to avoid it. Keep a list of delayed cases that you can use to fill broken appointments. Now we can't all be perfect but we can set up a target to shoot at and if we keep practising we shall certainly improve.

Help elderly people and sick people with their wraps. Keep the office as your home. Watch the ventilation; both the patient and the dentist appreciate this. Always telephone a patient to prevent her coming if you know the appointment has to be broken due to an emergency. Do not hesitate if you have a reasonable favour to ask of a patient; people like to do things for others, and they like the people they do them for. Always call the patient by name. If you have a side door in a two-chair office, you can call patients in without offending, even if the one to be seen second has come in first but be sure to step over and tell the other patient that Dr. Wilson will not be long as he is only relieving a toothache. Where possible, the assistant should receive and welcome all visitors to the office. Excepting in rare instances, the dentist should not be in the waiting room or receive patients. The reason for this is clear; if Dr. Wilson has a poor memory for names, or even a fairly good one it avoids an awkward situation if some one comes in whom he should know but doesn't. You can ask the name without causing embarrassment where he cannot.

Keep instruments and dental appliances hidden from view; we have become accustomed to them but patients haven't. I remember some years ago showing a patient a smear of Vincent's infection with the dark field on the microscope. It was an excellent specimen and I was very proud of it; he lost his lunch.

The high light of my experience, in how not to do it, (and I think I have told you of this before but it will bear repeating) was the assistant who beckoned the patient to come to the operating room with a pair of shiny steel forceps in her hand.

I could use many more illustrations and suggestions but I think these will suffice

to show you what I mean, by applying the rule I stated earlier "how would I like to be treated in similar circumstances if I were the patient?"

May I close this paper with two quotations, first, "A constant sense of duty is the last reason of culture," second,

"I slept and dreamed that life is beauty,
I woke and found that life is duty."

Under present conditions we can be careless, indifferent, or even thoughtless and "get away with it"—but these conditions will not last forever and bad habits are difficult to overcome.

Remember it is given to each of you to be the "bright spot" in your dental office.

Schoolmaster Abroad

QUESTION:

WHAT IS THE BEST TREATMENT FOR OSTEOMYELITIS OF THE MANDIBLE?

The following fine reply to this problem is taken from an article entitled "Osteomyelitis of the Jaws" by Carl W. Waldron, M.D., D.D.S., Minneapolis, Minn. which article appears in Jour. of Oral Surgery, Oct. 1943.—Editor.

ANSWER:

Early and adequate drainage of the area of infection is the most important consideration in the acute stage. This should be accomplished with the least possible surgical trauma. Incisions may be made intra-orally to open subperiosteal areas of pus or extra-orally to provide drainage of abscesses within the cellular tissues and between the periosteum and the lower border of the jaw. Suppurative matter on the lingual surface may require a free incision to prevent further separation of the periosteum. This provision for drainage may be sufficiently adequate to assure a marked improve-

ment in the local and systemic conditions. Such drainage is, of course, extra-mandibular and does not per se drain effectively the infected areas within the bone. This may be indicated especially when the infection has spread centrally through the bone from a periapical area, and particularly when thick cortical bone has offered resistance to drainage. In such cases, two methods of providing drainage to the deeper portions of the bone are available: (1) the extraction of teeth to provide access through the tooth sockets and (2) incisions through the buccal mucoperiosteum or in the submandibular region, and drilling through the cortical plate in several places. The mental foramen should be avoided by making two incisions if the infection extends anteriorly.

The method of choice is dependent on many conditions and considerations related to the individual patient and the accumulated clinical experience of the past. The increasingly severe and acute character of the

osteomyelitis may warrant such additional operative interference. In the past, in many cases of the acute type, the teeth have loosened so rapidly that they could be virtually lifted out, this measure providing the necessary additional drainage. It has, however, been common to observe a spectacular tightening up of very loose teeth to the normal after resolution of the osteomyelitis has taken place. Dental roentgenograms reveal complete regeneration of the alveolar process and the lamina dura with a normal periodontal membrane line when complete loss of such a supporting alveolar process has been manifest during the acute and subacute phases of the disease. Consequently, when acute osteomyelitis develops from the third molar region, with an otherwise normal complement of teeth, it is obviously desirable to retain the remaining teeth if it is at all consistent with the health and safety of the patient. In such cases, should intra-osseous drainage seem necessary, it would be wise to attempt to save the teeth by drilling through the cortical bone well beneath or externally from the root ends of the teeth. I have carried out this procedure in two patients. In both, the improved drainage resulted in prompt relief from the extreme and constant pain, with accompanying reduction of toxemia and improvement in systemic symptoms. I did not, however, succeed in saving a number of badly loosened teeth. In other cases, a dental examination will determine the fact that the extraction of certain teeth to secure better drainage of deeper areas of the bone will not seriously interfere with a satisfactory dental restoration.

With the acute stage fading into the subacute and chronic condition, the surgical problem is maintenance of continued adequate drainage and removal of sequestra as they become separated and loosened. The condition is determined by painstaking probing. Sequestrotomy should be carefully

performed, avoiding the use of curets which might damage reparative granulations or newly forming bone or might expose adjacent bony tissue, with extension of the osteomyelitic process. By such conservative handling of these cases, new bone formation proceeds apace while the necrosed portions of bone are becoming separated. Ordinarily, necrosed bone will become detached and loosened within ninety days, but it is not uncommon to see several sequestra in one patient become separated and loosened at intervals of several weeks. Delay in the separation of sequestra, even of a year or more, is not uncommonly seen when osteomyelitis of odontogenous origin develops after radium or x-ray treatment of malignant tumours of the mouth, tongue and lips. In such cases, it often becomes necessary to remove surgically the sequestrum that has failed to become separated. The injurious effects of irradiation upon the circulation of the bone interfere with the processes that ordinarily produce granulation tissue and form a line of separation, for there is an intermediate zone of bone the vitality of which is markedly impaired, but not lost.

The subsequent effect on normal growth of acute osteomyelitis of the mandible in children may be very serious, and the younger the patient, the greater may be the resulting deformity. The principles of treatment are as already outlined, and conservatism should be the rule. It has been repeatedly demonstrated that the developing permanent teeth and germinal tissues are remarkably resistant to infection and destruction by the osteomyelitic process. The completion of the roots of such teeth proceeds without apparent interruption, and eruption may take place a year or more before the average time. During the acute, subacute and chronic stages of the osteomyelitis, every effort must be made to maintain adequate intra-oral drainage and, if need be,

external drainage with frequent irrigation of the sinuses. Exposed crowns of permanent teeth should not be traumatized, for the developmental tissues of the root area continue to function normally even in the presence of considerable suppuration. One must resist the temptation to remove developing permanent teeth for the purpose of further improving drainage until it is apparent that such a step is necessary in the interest of recovery. The radical removal of large numbers of developing permanent teeth will be followed by unilateral or bilateral failure of development, causing facial deformity and retrusion. The resulting disproportion of the mandible and maxilla presents an almost insurmountable problem in restorative dentistry. Every effort should be made to avoid such deformities.

Unilateral deformity, retrusion and deviation of the mandible often result from an osteomyelitis involving the angle of the mandible and ramus when the growth centers in this portion of the jaw are affected. The prevention of this type of deformity is difficult, if at all possible. Efficient but conservative surgical treatment should be carried out to maintain drainage until all suppuration has ceased and sequestra have been removed. Orthodontic treatment may be of service later in promoting growth and reducing deformities. Osteoplastic operations to lengthen the jaw may be undertaken when the patient's growth is attained.

In osteomyelitis, systemic treatment is important. In the acute stage, the severity of the toxemia usually necessitates hospitalization, complete rest in bed and, at times, intravenous therapy and blood transfusion. Sulphonamide therapy should be tried, and vaccines are sometimes useful.

During the subacute and chronic ambulatory stages, fatigue must be avoided. The diet should be rich in nourishing and protective values and in vitamins. The mineral content

should be increased by the use of milk products or by the administration of compounds of calcium, phosphorus, etc. Plenty of fresh air and sunlight, or ultraviolet ray treatment, is helpful.

QUESTION:

WHAT ARE THE SYMPTOMS OF ACUTE OSTEOMYELITIS?

ANSWER:

(Taken from the paper on "Osteomyelitis of the Jaws" by Carl W. Waldron, M.D., D.D.S., Minneapolis, Minnesota.—*Journal of Oral Surgery*, October, 1943.)

The symptoms of the onset of acute osteomyelitis of the jaws vary considerably. When they are associated with a dental operation such as the extraction of teeth, there is usually evidence of a local reaction within a few hours. Pain, swelling, elevation of temperature and general malaise increase hour by hour. In the occasional fulminating case, the condition may progress rapidly to a fatal termination. Usually, in a few days, sufficient drainage is established to lower the temperature and lessen the pain. Then ensues a long period in which there is more or less sufficient drainage, and ultimately sequestra become loosened and are removed before final healing takes place. During this period, there may develop subacute or even acute exacerbation due to partial or complete closure of sinuses with blockage of the drainage or to minor extensions of the osteomyelitis process. When the condition arises in the course of a systemic infection, the general symptoms of osteomyelitis may be masked by those already present, and the condition may be recognized only by the local signs. If osteomyelitis occurs as a complication of a fracture or of some operative procedure in which the wound is wide open, there may be little disturbance other than the local swelling, pain, and progressive loosening of the teeth, with the appearance of a purulent discharge.

The Forum

• DENTAL PRACTICE AND DENTAL EDUCATION IN THE FUTURE; WITH CONSIDERATION OF SOCIAL AND HEALTH ASPECTS

by JOHN OPPIE McCALL, A.B., D.D.S., New York, N.Y., Director of Guggenheim Dental Clinic, New York City.

Condensed from Jour. of A.D.A., Jan. 1944.

IN APPROACHING the consideration of dentistry of the future, thought naturally turns to prevention of disease as the desirable nucleus of such practice.

Although we may expect to reduce dental disease appreciably in the near future by preventive measures centering in dietary improvement or the addition of fluoride to drinking water, the need for a type of dental service that I have called protective dentistry, that is, early care of defects, will continue to be felt to a certain, but in time a diminishing, extent.

The ideal of dentistry is primarily the prevention of dental caries, periodontoclasia and malocclusion, and only secondarily the early correction of these conditions when found.

It is obvious that treatment in all of the fields mentioned must rest on diagnostic skill. This involves not merely determining the existence of pathologic or abnormal states as discovered by mouth examination and the roentgenogram, but also discovering the background of these conditions. This will commonly involve some investigation of systemic conditions. Such a study can be made only by one who has had some training in medical science, and by medical science I mean not merely the so-called basic sciences, but also the science of clinical medicine.

THE PHYSICIAN LOOKS AT DENTISTRY

Dentists sometimes complain that physicians are not interested in dental problems. I predict that dentists will

never be accepted by physicians as health workers on an equal basis as long as they continue to be preoccupied with prosthesis as at present and to exalt this phase of practice.

To illustrate my point, let me cite a comparable situation in the medical field and the usual method of handling it, the case of traumatic injury of the leg. The surgeon applies such therapeutic measures and agencies as are indicated in an effort to save the leg and restore its function. If such efforts are beyond the possibilities of success, he performs an amputation. After recovery, a wooden leg is made. Is the wooden leg made by the surgeon? Not at all. There is no therapeutic problem involved in that procedure, only restoration of function as far as possible. Hence, the case is turned over to the trained technician. If adjustments are required, the surgeon will advise regarding them.

The dental practitioner must be more the dental physician and less the purveyor of dental restorations if he is to accomplish the greatest good for his patients.

AUXILIARY PERSONNEL

Whatever the mechanism for the delivery of dental service, economy demands that procedures which can be performed by persons specially trained in them, but who are not necessarily fully and expensively trained dentists, should be so delegated.

The auxiliary personnel that I have in mind comprises, as at present, the dental hygienist, the dental technician and the dental assistant. I propose, however, that the fields of the first two be extended to make them even more useful than at present.

Dental hygienists were originally brought into the profession in order that they might give prophylactic

treatments. Back of this move was the thought of economy. Dentistry has hesitated to take the logical steps to follow up this beginning. Now is the time to act if dentistry is to discharge its social obligation to the public; namely, to provide all necessary dental service at the lowest cost consonant with good quality.

The next step for the dental hygienist is one already taken in New Zealand, the filling of children's teeth.

I should train the dental hygienist to place amalgam and other plastic fillings in cavities in the teeth of children up to the age of 14; in other words, through the pre-school and public school ages. They would perform no extractions, treat no abscesses and handle no other surgical procedures and no pulpotomy or other pulp treatments. They should, as in the prophylactic field, work under effective, although not necessarily continuous, supervision of the dentist.

For the dental technician, I propose training that will enable him not only to process full and partial dentures as at present, but also to take the impressions for them, insert them for the patients, and make such adjustments as may be needed. This work also should be under the effective supervision of a dentist.

We must constantly remember that, in the denture field, the greatest possible economies are needed with reference to service for the so-called dentally indigent who, by reason of neglect, focal infection, etc., may have to lose all or most of the natural teeth.

However, in the field of crown and bridge work, except for using removable bridges retained by simple clasps and not using lug seats inserted in the teeth, the dental technician would be limited as at present to laboratory procedures. Preparation of teeth to be crowned or used as abutments, taking of impressions and insertion of such restorations would be carried out by the dentist as at present. This dis-

inction between the two prosthetic fields is based on the fact that preparation for such structures involves cutting into the natural teeth.

The dental assistant will continue to perform the functions now assigned to her. I see no additional or more advanced duties for her at present. In time, she may also be trained in certain bacteriologic and chemical techniques to provide needed assistance in diagnostic procedures.

DENTAL HEALTH PROCEDURE AND DENTAL PRACTICE OF THE FUTURE

Protective dental service for the child can well be given in the school dental clinic or health department clinic except for those children whose parents can afford the expense involved and desire to have the work done by the private dentist. As regards results, it will be far better to provide protective dental service for all children by trained dental hygienists at the taxpayers' expense in a well-supervised clinic, making this free to those who seek it, than to make an effort, as at present in a large percentage of cases, to get dentists to do this work at low fees with the inevitable consequence of work of inferior quality or falsified completion certificates.

We come now to the dentist. His services can be distributed through several channels. First, we have the private office, an institution which, I am confident, will continue to flourish regardless of the apparent trend toward socialization of health services now observed. At least, private practice will never go out of existence in this country as long as we have the system of private property. However, the percentage of people who will be able to command the services of the private general practitioner and specialist will depend entirely on the economic status in any given community.

The private general practitioner will tend to bring into his office a dental hygienist and dental technician. The dental hygienist will, as in the school clinic, fill children's teeth in addition to giving prophylactic treatment. Cases requiring full or simple partial dentures will, after investigation to determine the health of any remaining teeth, and whether there are buried roots, etc., in edentulous areas, be turned over to the dental technician, who will handle the entire prosthetic procedure, subject to review by the dentist. The dentist will then be free to devote himself to diagnosis; prescriptions for preventive dentistry for if it is within their reach. Dentists serving this group will fare about individual patients; operative, periodontic and simple orthodontic treatment, and crown and bridgework as needed. He may practice exodontia elects. Two or more dentists might and minor oral surgery or not as he share a suite of offices in order to utilize the time of a single dental technician and dental hygienist to the best advantage.

As a result of such changes in practice, the commercial dental laboratory as we know it today will, I believe, eventually go out of existence. The dental technician will, however, gain in dignity and professional stature.

EFFECT ON THE DENTAL PROFESSION

To the question "How is all this going to affect the dental profession?" the answer is that private practice will continue as at present for that percentage of the people who can afford it, for they will continue to seek it as at present, perhaps better, since their activities will be more readily recognized as constituting an essential health service and evaluated accordingly.

Dentists serving the groups needing a subsidized service may give much of this service in the private office. Social security programs now in ef-

fect in many areas give a preview of the method of operation of such service. In many instances, the service will be given in the clinic or hospital. It is for this group, particularly, that the economies offered by auxiliary personnel will be effectuated. Remuneration will be by salary on a per session basis or a salary for full time. As plans evolve in actual practice, there may well come into existence a considerable body of dentists who will enroll in full-time service in tax-supported programs. Their remuneration and professional satisfaction will depend in large part on the constructive activity of organized dentistry in working out the details of practicable programs.

As the auxiliary services that I have described come into operation, the dentist will grow in professional stature and in actual accomplishment of benefits for his patients. On such a basis, I am sure dentists will not suffer financially.

DENTAL EDUCATION IN THE FUTURE

Present instruction should be reinforced and vitalized by hospital assignment, which could be arranged as a kind of clinical clerkship in the senior year of the course. In addition, the dental graduate should be required to take a year's internship in a hospital after graduation. This should be a rotating internship with service in both outpatient and inpatient departments and in the pathologic laboratory. In each of these departments, it is necessary that we have proper supervision and instruction. Only through such experience, I am satisfied, will the dentist gain the medical viewpoint which it is so desirable that he have. Increasing cooperation of the hospitals will be needed for full satisfaction of this requirement.

This medical experience will not only enable the dentist to study his patients intelligently with respect to systemic diseases that have oral man-

ifestations or oral disease that affects the system adversely, but will also provide the background for the evaluation of those sub-clinical aberrations of the system that manifest themselves in the common oral disease — dental caries and periodontoclasia.

The second subject that I note as requiring more time in the dental curriculum is periodontia.

As regards orthodontics, more time will have to be given to such instruction than is being set aside today in this field. But it can be done and should be done.

One subject, however, can be eliminated entirely, I believe, without serious loss. That is the gold foil procedure. The verdict on gold foil has been given by the practitioner of today.

A subject in which many hours of instruction can be saved for the dental student without, however, eliminating it entirely is partial and full denture prosthesis. The student need know but little about the techniques of denture construction. What he does need to know is dental anatomy and occlusion, and his knowledge of these subjects should be gained under the instruction of the professors of anatomy, physiology and orthodontics.

The development of this type of practice, founded on teamwork of personnel qualified for certain tasks, will not only improve dental practice, but will also make it more economical. This step is necessary for the proper discharge of the obligation of the dentist to the community which has given him the sole privilege of treating dental disease.

• USE OF FLUORINE IN THE PREVENTION OF DENTAL CARIES

by BASIL G. BIBBY, D.D.S., Ph.D., Boston, Mass.
*Excerpts from paper in Journal of A.D.A.,
Feb., 1944.*

ONE disadvantage of adding fluorine to the water supply is that there is reason to believe that a fluorine sup-

plement in a soft water would be absorbed to a different extent from that present when the same supplement was added to hard water or occurred naturally. Further, individual variations in water consumption, diet or metabolism would probably produce uneven results in different children. These factors make it difficult to establish a universally satisfactory level of fluorine intake which will confer the advantages of caries prevention without the risk of producing mottling of the enamel or other as yet unknown undesirable effects which may result from continuous ingestion of fluorine. Another disadvantage of this approach is that the greatest caries reduction which could be expected to result from using a drinking water containing 1 part per million of fluorine, a concentration which produces sporadic mild mottling of enamel, would be no greater than the approximately 50 per cent reduction shown to result when like concentrations of fluorine occur naturally in the water. A reduction of caries to one-half is, of course, no more the desideratum than the direct infection with cowpox was the ultimate achievement in the prevention of smallpox. The aim in programs of caries prophylaxis should be to reduce caries in all teeth at least to the extent to which fluorine reduces decay in the anterior teeth; namely, by from 90 to 95 per cent of its normal incidence. To accomplish this, it seems obvious that more refined methods of use than simple addition to the drinking water must be worked out.

In consideration of the mode of action of fluorine, it was concluded that the anterior teeth showed their phenomenal resistance to caries because they alone came into repeated direct contact with fluorine-containing water. Therefore, because the reaction between fluorine and the enamel is a very rapid one, it seems likely that direct applications of fluorine-containing fluids to the teeth would reduce caries. Moreover, if our con-

clusion on the mode of action of fluorine is correct, the extent of the reduction should be approximately equal in all teeth.

This possibility has recently been tested in a clinical study in Brockton. Three times a year for two years, applications of 1/1,000 sodium fluoride were made to the teeth of one of the four quadrants of the jaws of a group of 100 children, and the progress of caries was compared with that in the opposite (control) quadrant of the same jaw. Re-examination at the end of the first and second year showed a striking reduction of caries in the treated quadrants. In the test quadrants of eighty patients completing two years of treatment, eighty-three new cavities appeared, whereas, the corresponding untreated control quadrants in the same jaw, but other side of the mouth, there were 124 new cavities. There was less difference in questionable caries (fillings, questionable caries and cavity enlargements), the test and control figures being 90 and 115. The reduction of caries in the molars (40 per cent) and bicuspids (33 per cent) were essentially the same as in the anterior teeth (34 per cent).

These results, which have received confirmation in a more limited study, not only prove the correctness of our general conclusion regarding the mode of action of fluorine and the accuracy of our explanation of the different degrees of caries reduction in incisors and molars when fluorine is taken in the drinking water, but also show that application of fluorine directly to the teeth will reduce caries, even though it is not taken into the system. There is no reason to believe that the caries reduction brought about in our study represents the best result obtainable by this general method. Since contact with fluorides in the drinking water reduces caries in the anterior teeth by as much as 95 per cent, it is not unreasonable to expect that a similar reduction could be brought about

in all teeth when improved methods of making local applications are worked out.

It is possible that this end could be accomplished either by giving more frequent fluoride treatments or by increasing the reactivity of the fluorides. The former could be accomplished (a) by having dentists or dental hygienists give frequent treatments, or modified treatments, of the kind given in the Brockton experiment; (b) by having patients apply fluoride-containing preparations to their own teeth as part of their regime of oral hygiene, or (c) by subjecting the teeth to a concentrated series of fluoride treatments during a period of a few days. All these methods are now being investigated in various parts of the country, and the relative effectiveness of each approach should soon be known.

• **PENICILLIN IN TREATMENT OF CELLULITIS OF THE MOUTH**

by WALLACE E. HERRELL, M.D., and DONALD R. NICHOLS, M.D., Division of Medicine, Mayo Clinic, Rochester, Minn.

Summary of paper in January 1944 issue of American Jour. of Orthodontics and Oral Surgery.

PENICILLIN has been used in six cases of rather extensive cellulitis of the mouth. In two cases the cellulitis was complicated by bacteremia. The use of penicillin did not produce any toxic reaction. The rather extensive cellulitis present in these cases responded almost dramatically to the use of penicillin. If subsequent studies show that penicillin therapy will accomplish satisfactory results in such cases, it may be possible to avoid extensive and radical surgical procedures which have often been necessary. It seems likely that the use of penicillin may shorten the period of convalescence and reduce the hazard of complications associated with cellulitis of the mouth.

• DENTAL COMPLICATIONS IN THE CARDIAC PATIENT

by JOSEPH WEINSTEIN, M.D., F.A.C.P.

(Excerpts from Round Table Discussion held by Midtown Dental Society and published in *Dental Outlook*, June, 1942.)

THE average individual will consider, particularly in the presence of dental trouble, pain in the jaw, gums, and teeth to be of local or dental origin, and correctly so in the majority of cases. However, once in a while he will be in error, an error which may prove very serious or even fatal.

(Dr. Weinstein submitted two interesting case histories to illustrate the above statements; one a man, aged 54, who for a period of eight months complained of pain in the left lower jaw, especially severe when walking up hill and against a cold wind. The pain grew progressively worse until he was forced to stop and rest until the pain subsided. This was diagnosed as angina pectoris. The other case was a woman, aged 47, who gave a story of pain in the chin of about three weeks' duration. She suffered pain only when walking out in the cold. The pain would be so excruciating that it would take her breath away and she would have to stop. With rest the pain would disappear. The first patient died six weeks later following the extraction of three teeth. The second patient also died following tooth extraction. An autopsy in both cases showed acute coronary occlusion.—Editor of *Dental Outlook*.)

In reviewing these cases, while the general clinical pictures should make one suspect serious cardiac ailments, most important was the character of the pain. A pain which comes on with exertion and is so severe that it necessitates stopping and is relieved by rest is a classical description of angina pectoris. The definition of angina pectoris should be a pain caused by the heart; the pain does not have to be over the heart; the location of the pain may be bizarre, as in these cases, over the jaw or chin.

There are other rare conditions which cause pain that may be aggravated by exertion such as vascular new growths and local vascular lesions. There is also a congestive type of inflammatory dental condition which may cause pain aggravated by exertion. When you have a patient with pains of the character described, before undertaking any major procedure, the responsibility rests with you to first consult with his physician in order to rule out a serious cardiac condition.

I can state that I do not feel it safe to use adrenalin in coronary disease in any dilution.

I believe that depending on the type of infection, though rare, it is possible to have a coronary arteritis with a dental infection, just as it is with rheumatic and other types of infection.

We do not know what factors will make old damaged or congenital valves susceptible to secondary infection but it behooves us to consider every individual with such valves as a potential case for a superimposed subacute bacterial infection. I cannot stress too much, therefore, the importance of mouth hygiene and the importance of preventing and eliminating foci of dental infection as well as other foci of infection in these individuals.

I believe that it is justifiable in individuals with such susceptible valves, to establish, under careful medical supervision, a proper blood concentration of a chemotherapeutic agent during and after the eradication of a focus of infection.

In an established active case of subacute bacterial endocarditis, an active "feeding" focus is well established below the endocardial surface of the heart and, unfortunately, none of our modern methods of therapy are successful in eradicating it, a fact which makes the outlook so hopeless.

I do not believe that the absence or presence of an additional active dental

focus will materially influence the course of the disease. However, I would nevertheless, favour the removal of such foci for fear that they may possibly introduce new and more active infection.

To eradicate a focus of infection under such circumstances, I would first sterilize the blood by chemotherapy and would then make sure that the proper blood concentration of the chemotherapeutic agent is maintained before, during, and after the operative procedure.

It would be important and of great help to the dentist to have a really informative case record. Of importance would be items in the history such as serious past illnesses, occupational illness, diabetes, high blood pressure, etc. A standard question should be: Are you now or have you been under the care of a physician and for what condition or conditions?

The patients soon realize that the co-operation between the physician and the dentist in such cases is of the greatest importance for their welfare and they think all the more of you for your efforts to that end.

● PRACTICAL HINTS AND SUGGESTIONS

by TOMYE TURNER, Toronto, Ontario.

1. When heating a gutta percha stick over the flame, hold it about an inch above the flame to avoid burning and discolouring the gutta percha.
2. If gutta percha has become soiled, heat the stick and roll it on fine

gauze. The discolouration will adhere to the gauze.

3. As an economy measure, cut your celluloid strips in two—the long way of the strip. This still leaves enough width for the average cavity.
4. To carry a wet x-ray film, place between two layers of moist cotton and wrap in wax paper. The cotton will not adhere to the film.
5. To keep the cuspidor from discolouring due to alkaline residue, wipe it dry each night. Do not let the water stand overnight in it.
6. To save time at the chair, keep articulation paper cut in inch squares for inlays and two-inch strips for bridges and dentures.
7. Keep an ink eraser near the sterilizer and instruments can be kept polished by briskly rubbing them with the eraser before placing in sterilizer.
8. As a time saver during statement time, use window envelopes and insert the statement so that the patient's address appears in the window space. This saves typing the address on the envelope.
9. Before the Doctor takes an Ackermans impression, rub vaseline or cocoa butter around the patient's mouth. This will prevent the sticky material from adhering to the patient's skin.
10. When mixing Ackermans cement, reverse the usual technique and add the liquid to the powder for better results.—*Ontario Dental Nurses' and Assistants' Association Bulletin.*

A TRUE STORY

Patient seated in dental chair:—"Doctor have I pyorrhea?"

Dentist:—"No, you haven't. You have a great many large fillings but no trace of pyorrhea."

Patient:—"I carry a life insurance policy which provides for a medical examination regularly. Recently I had an examination by my physician and later received a report from the In-

surance Company to the effect that I had passed a first class examination but that the doctor had reported that I had pyorrhea and that this should be looked after. I telephoned my doctor about this and he said 'I just wanted to put the scare into you so that you would have your mouth examined.'"



PRINCE EDWARD ISLAND

SASKATCHEWAN

Editor — M. H. GARVIN, Winnipeg

A S S O C I A T E E D I T O R S



D. T. Wye, Charlottetown

QUEBEC

ONTARIO

F. C. Harwood, Moose Jaw

NOVA SCOTIA



ALBERTA

E. M. Laurin, Montreal

T. R. Marshall, Toronto



S. G. Ritchie, Halifax

MANITOBA

John Clay, Calgary

NEW BRUNSWICK



BRITISH COLUMBIA



J. F. Morrison, Winnipeg

W. C. Carruthers, Saint John

H. M. Cline, Vancouver

The Recall Problem

Roger I. Lee, M.D., of Boston, in the Mayo Foundation Lecture of April, 1942, stated "Dentists have taken up enthusiastically the notion that health affects the teeth and that teeth affect the health. Already most of the intelligent laity have some sort of an idea, perhaps hazy and spotty, that diet and vitamins are concerned in the development of good sound teeth. Often they will have roentgenograms and will endure the loss of teeth, some of which may be useful and harmless members of the dental family, before they seek medical advice. The dental profession has been able to accomplish something that the medical profession has been unable to do and has accomplished this by the individual efforts of the individual members and through the personal dental-patient relationship. The public has accepted dentistry and periodic examination with convincing finality."

It has been stated many times in dental literature that a well-organized recall list is not only one of the greatest benefits to our patients, but is also one of the greatest practice stabilizers which we have at our disposal. It means being uniformly busy and also minimizes the necessity for emergency

calls to the office or home as patients on the recall list rarely require such service. It is poor reasoning and faulty judgment to say that I have more work than I can do, why bother with a recall list? This war will be over soon and we may then welcome some of those busy days which may be driving us to distraction at present. It is just plain common sense that next to caring for those directly associated with our war effort and the children of our practice that those patients whose names appear on the recall list should be given first consideration.

In spite of the importance of this phase of dental practice, the average dental student in discussing this subject on our Dominion Dental Council examinations seems to have little conception of what a recall list is all about and what conception he has is usually wrong. Perhaps many of those in active practice, even those who have been for some time, have a hazy idea of how to plan a worth-while recall list, hence this article.

Of course the very foundation of a successful recall list is the education of the patient at the chair, as Dr. Lee states "the dental-patient relationship." When the dental service is completed the patient may be told that much of the work undertaken could have been avoided if the teeth had not been neglected. If necessary one might even refer to the necessity of having one's automobile checked over regularly and to the greater importance of having one's teeth cared for at regular intervals in order to ensure maximum results in mouth health conditions. This takes only a few minutes, then the patient is told that we would advise that he return every three, four or six months as his case may indicate and he is asked whether he would like us to telephone him re an appointment or would he prefer to keep track of the matter himself. We have found that about 98 per cent prefer to be placed on the recall list and many are most grateful for this service.

When the patient agrees, one writes in pencil in the remark column of the patient's chart "Every 3 m. 20" meaning that he is to be called in 3 months and that 20" will be kept or it may be 30" if desired." The letter R is also placed opposite the patient's name on the daily work sheet simply as a double check. A separate card index is used for the recall system. When the recall card is made out by the assistant she replaces the pencil entry with red ink, she also ticks off the letter "R" on the work sheet, but not until the card is completed. It is really too bad to promise to telephone a patient and then neglect to do so on account of a faulty system of recording.

Spaces for name of patient, office and home telephone numbers, the date of the last appointment, the date of the future appointment 3 months hence, and a column for replies if the patient cannot come when telephoned, are found on these recall cards. Some patients prefer an appointment at 9 a.m.; others late in the morning; some early in the afternoon. All these desires are noted on the recall card.

These cards are then filed alphabetically in the first half or second half of the future month, in which the appointment is to be made, using a dif-

ferent colour index for the first half of each month as compared with the second half. If the card is filed in the second half of June, the assistant places "June 2" in red ink in the remark column of the patient's chart, so if for any reason one wishes to find a particular recall card, one can do so at once by referring to the patient's chart. At the beginning of June all the cards for the first half of that month are removed from the file, an elastic is placed around them and these patients are telephoned as time and space on the appointment book will permit.

These patients should be telephoned if they have a telephone, not written to or favoured with a printed card. The assistant should say "This is Dr. X's office. We promised to telephone you in three months for an appointment. Dr. X can see you at nine o'clock on Wednesday morning." If this is not satisfactory some other time can be arranged but never say "Do you wish to make an appointment?" or worse still "I suppose you couldn't come at nine o'clock on Wednesday morning?" If the patient has no telephone then, of necessity, a letter should be sent asking him to arrange an appointment:

A favourite examination answer to this problem is to make an appointment six months ahead on the appointment book in red ink then advise the patient by letter, card, or telephone, a few days or a week previous. If one sends a letter and no reply is received, the time may be wasted. If one telephones, one may find that the patient is in the hospital, or holidaying in Florida, and the appointment has to be cancelled. What can one do with all these red ink entries which have to be erased? Some students would use the patient's operative chart to keep track of the recall list and would file these charts under certain months, say four or six months ahead. Of course to anyone who has seen active practice, such a system would be hopeless. Regular record charts should be filed alphabetically or numerically, the latter being the ideal. Others would place coloured tags on these record charts, then what happens when the tag is accidentally knocked off into the bottom of the drawer and overlooked? Some students would make a list of these recall patients in the back of the appointment book or in a separate book, all of which entails the work of carrying forward, after each appointment, the name, telephone numbers and all other information about each particular patient, which would involve a great deal of extra work. Does such a plan make sense? Perhaps these students are planning on having a recall list with a dozen names thereon when they should plan for a list of at least several hundred.

A faithful and efficient dentist will always find an increasing number of patients who value their dental health sufficiently to give it a prominent place in their yearly program regardless of conditions in the financial world. This recall list is of the greatest importance and will become the very backbone of any practice. It should be given greater recognition by the dental profession. It should become an integral and important part of every practice

and the key stone of preventive dentistry until more is known about the cause of dental caries and periodontal disease. It should be adopted into the practice of every dentist if he is to come to grips with the problem of keeping the mouths of his patients in a healthy condition. Let us emphasize again and again this dentist-patient relationship which has extraordinary possibilities and which would do so much towards raising dentistry to greater heights in the eyes of the public.

M. H. G.

BOOK REVIEW

Atlas of the Mouth and Adjacent Parts in Health and Disease, by Maury Masler, D.D.S., M.S., Director of Child Research Clinic, Assistant Professor of Histology and Lecturer in Stomatology (College of Medicine), and Isaac Schour, D.D.S., Ph.D., D.Sc., Professor of Histology and Head of the Department of Histology, University of Illinois, College of Dentistry. Published and Distributed by the Bureau of Public Relations Council on Dental Health, American Dental Association, 222 East Superior Street, Chicago, Ill. Price \$2.50.

Originally the authors conceived the Atlas as a teaching aid for dental and medical students. However, the contents cover such a large field and the 180 illustrations are so splendidly produced there is no doubt that it will prove exceptionally valuable for patient education in the office of the general practitioner.

Many of the plates are original and 19 are in color. These illustrations would prove most practical in discussing with the patient

the eruption, the occlusion, the life cycle, the physiological spacing, and caries of the teeth. The effects of mouth breathing and the effects of the loss of teeth are also splendidly illustrated as well as the progress of periodontal disease. Dental erosion, dental fluorosis, enamel hypoplasia and congenital syphilis are also covered.

From the various plates and concise descriptions, the dentist himself could check up on the characteristics of such lesions of the buccal mucosa as stomatitis medicamentosa, pemphigus, erythema multiforme, apthae, mucous plaques, thrush, lichen planus, leukoplakia, Fordyce's disease, chancre, allergy, perlèche, carcinoma, various tongue conditions, diseases of occupational origin, the glands, throat ailments and sinuses.

The arteries, veins, nerves, muscles as well as the temporomandibular joint are all shown diagrammatically.

The Bureau of Public Relations Council of the American Dental Association is to be congratulated upon publishing this very attractive and practical Atlas which should find a place in every dental office.—M. H. G.

CONVENTIONS

Ontario Dental Association

The 77th Annual Convention of the Ontario Dental Association will be held at the Royal York Hotel, Toronto, Ontario, May 29, 30, 31, 1944. Dentists from the United States and from all parts of Canada will be welcome.—Edmund A. Grant, Secretary.

Twentieth Anniversary Meeting

The Montreal Dental Club Annual Fall Clinic will be held in the Mount Royal Hotel, Montreal, Canada, October 25, 26 and 27.—M. L. Donigan, Director, 1414 Drummond St., Montreal.

DENTAL CORPS NEWS

Lt.-Colonel Willard F. Armstrong

Lt.-Colonel Willard F. Armstrong is the District Dental Officer, Military District No. 10, Winnipeg.

He was graduated in Dentistry from the University of Toronto in 1925, and after a post-graduate internship in Toronto Western Hospital he practised in Toronto.

Lt.-Col. Armstrong was appointed Lieutenant in the Non-Permanent Active Militia in 1933 and was promoted to be Captain when he went on active service in 1939. He proceeded overseas with a General Hospital unit of the First Canadian Division. Following his return to Canada in the summer of 1942 he served in Military District No. 2, Toronto until his appointment to his present post in August, 1943. He was promoted to the rank of Lieut.-Colonel in November, 1943.



Lt.-Col. Lloyd A. Stirling

The Department of National Defence has announced the promotion of Lt.-Colonel Lloyd A. Stirling from the rank of Major and his appointment to be District Dental Officer of Military District No. 2.

Lt.-Col. Stirling was born in Kincardine, Ont. and served in the Great War in England and France with an infantry battalion and with the Canadian Engineers. He was graduated in Dentistry from the University of Toronto in 1923 and practised in Toronto. He was the Secretary of the Academy of Dentistry at the time of his enlistment.

Lt.-Col. Stirling was appointed to the Canadian Dental Corps in June 1940, and was promoted to be Major in December, 1941. Previous to his present appointment he served at No. 1 Training Command Headquarters (R.C.A.F.), Toronto, and as assistant to the Deputy Director of Dental Services (R.C.A.F.) at Ottawa.





Lt.-Colonel E. F. Stewart

The Department of National Defence has announced the promotion to the rank of Lt.-Col. of Major E. F. Stewart and his appointment as an Assistant Director of Dental Services at Canadian Dental Corps, Headquarters, Ottawa.

Lt.-Col. Stewart was born in Orillia, Ont. and was graduated in Dentistry from the University of Toronto in 1923. After post-graduate study at Rochester, N.Y. and a term of service as resident dentist in the Muskoka Hospital, Gravenhurst, he practised in Toronto and Creemore, Ont.

In the Great War, he served as a gunner with the Canadian Field Artillery in England and France. He was appointed to the Canadian Dental Corps in January, 1940, and was promoted to be Major in April, 1942.

Lt.-Col. Stewart now makes Ottawa his home and has two children attending Lisgar Collegiate.



Major J. K. Carver

The Department of National Defence has announced the promotion of Major J. K. Carver from the rank of Captain.

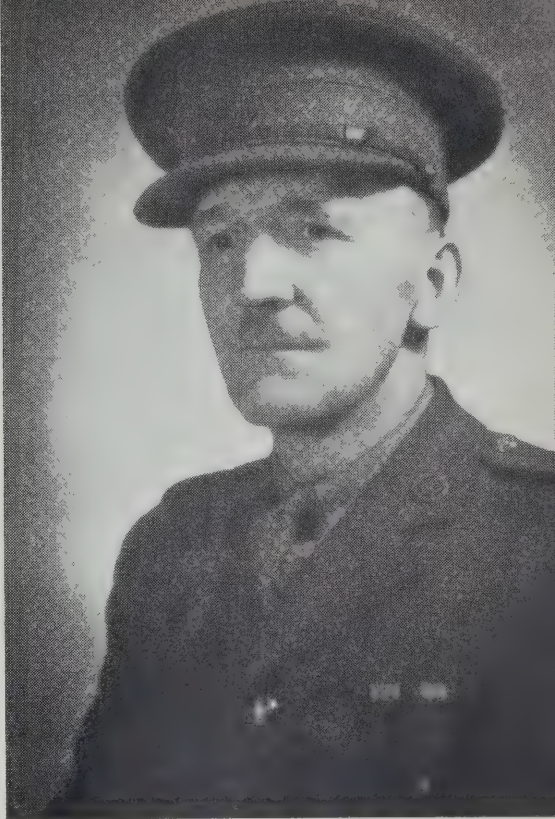
Major Carver was born in Montreal and was graduated in Dentistry from McGill University. He practised in Westmount Que. and is a member of the Board of Governors of the College of Dental Surgeons of the Province of Quebec and a member of the Board of Governors of the Canadian Dental Association. He is Dental Surgeon to St. Mary's Hospital, Montreal. For the past year Major Carver has been stationed at Canadian Dental Corps Headquarters, Ottawa.

Major L. A. Kilburn

Major L. A. Kilburn is the Officer Commanding, No. 26 Coy. C.D.C. with Headquarters at Halifax, N.S.

He served with the artillery in World War I. Following graduation in Dentistry in 1923, he practised in Hamilton, Ontario.

Major Kilburn was President of the Hamilton Dental Society in 1931; served for several years as a member of the Board of Governors, Ontario Dental Association; and was an instructor on the Faculty of Dentistry, University of Toronto, from 1937 until his appointment to the C.D.C.



Major T. I. Guilboard

Canadian Military Headquarters, Overseas, has recently announced the promotion of Major T. I. Guilboard from the rank of Captain.

This officer was born in Montreal and attended Montreal Catholic High School and Loyola College. He was graduated in dentistry from McGill College University in 1936. After an internship in Montreal hospitals he practised in Montreal. He holds an appointment on the Dental Staff of Children's Memorial Hospital.

Major Guilboard was appointed to the Canadian Dental Corps on November 7, 1939. He has been serving overseas since the latter part of 1941.





Major Alexander Lipson

Major Alexander Lipson was born in London, England. He received his early education in Toronto schools and was graduated in dentistry from the University of Toronto in 1928.

He was appointed to the Canadian Dental Corps in February, 1941 and was promoted to the rank of Major in June, 1943.

Major Lipson has been serving with a dental company which served Army personnel in Nova Scotia but has recently been posted Overseas.

[SUPPLEMENTARY LIST CANADIAN DENTAL CORPS OFFICERS AS OF FEBRUARY 29, 1944

APPOINTMENTS

Rank, Name and Date	Civilian Address
Lieut. (A/Capt.) W. G. Hogg, 15-2-44.....	Charlottetown, P.E.I.
Lieut. H. E. McIntosh, 21-12-43.....	South Porcupine, Ont.
Lieut. J. E. Newell, 28-2-44.....	Hamilton, Ont.
Lieut. M. J. Waterman, 5-2-44.....	Vancouver, B.C.

RETIREMENTS

Capt. W. J. Blackburn, 4-2-44.....	Fort William, Ont.
Lieut. H. J. Short, 1-1-44.....	Winnipeg, Man.
Lieut. L. H. Chapman, 22-2-44.....	Chilliwack, B.C.

Dominion Dental Council Examinations

There will be a Dominion Dental Council Examination held at the University of Alberta and Dalhousie University May 8 to 13. For this examination class D fees should be in the Secretary's office not later than March 15, and class A fees not later than April 10. There will be an examination also from August 1 to 5 which examination will be held in Toronto, Ontario. Fees for Class D, for this examination should be in not later than June 15 and class A not later than July 3.—A. J. Brett, Sec.-Treas., Regina, Saskatchewan.

"The community is concerned with the maintenance of professional standards which will insure competency in individual practitioners."—Chief Justice Charles Evans Hughes.

CANADIAN DENTAL ASSOCIATION NEWS

(FROM THE OFFICE OF THE SECRETARY)

Federal Rehabilitation and Dentistry

At a meeting of the Special House of Commons Committee on Reconstruction & Re-establishment held on February 23, 1944, the Hon. Ian Mackenzie, Minister of Pensions & National Health and Dr. G. M. Weir, Director of Training, Rehabilitation Branch, Department of Pensions & National Health, appeared as witnesses.

The Hon. Mr. Mackenzie presented an interim report at this meeting on the "rehabilitation Survey" which Dr. G. M. Weir has conducted for the past year. In speaking on the report Mr. Mackenzie stated "I shall give in brief synoptic form, a number of the arresting conclusions contained in the report."

The professions are dealt with as follows:

"The number of professional employment opportunities in Canada in additional positions now available, or that should be filled, is estimated at approximately 50,000, including the following:—

Doctors	5,652
Dentists	8,089
General nurses	7,491
Public health nurses	3,953
Social workers	650
School inspectors or supervisors	207
District agriculturists	501
Journalism	200
Radio	100
Laboratory technician	100
X-ray technician	100
Engineering	755
Optometry	194
Practical art	30
Home economics	365
Veterinary science	217
Law	315
Agriculture	204
Psychology	450
Pharmacy	365
Technical foresters	150
Commerce and business administration	552
Architects	31
Teaching	6,400

The foregoing figures represent the results

of specific surveys of actual needs in the professions indicated.

Dr. Weir stated that, "there is undoubtedly going to be, and there is at the present time serious congestion so far as training facilities for medical students are concerned; but I think in all likelihood the Provinces of British Columbia and Saskatchewan will be called upon shortly to establish medical schools at their universities because, as has been intimated, the eastern universities cannot carry their present load and discharge their obligations to their own immediate constituents, so to speak, without accepting students from other provinces. I am urging the provincial authorities in British Columbia to take steps immediately not only with respect to the training of doctors, but of dentists as well. As a matter of fact, the shortage of dentists in Canada is appalling today. I used the word "appalling" deliberately; as a matter of fact a much stronger word could be used, but I should not like to see it in print."

If a single man, now in the Armed Forces, wishes later to take up dentistry, he would be entitled to \$42.40 a month, plus all university fees, for the length of time, *prima facie*, that he was in the armed services. If, for instance, he was twenty-four months in the armed services, he would be entitled to three years' training, because the academic year is eight months. If at the end of three years he is making good progress and his achievements are such as to indicate that it is in the public interest that his training should be continued, then the minister has discretion to grant continuation of that training so long as it is in the public interest. As a matter of fact, if a lad had completed his third year and had only a year to go, we should do everything reasonable to see that he graduated. It certainly would be in the public interest to graduate as many dentists as possible. In that way, you can see he is practically assured of a course. There are funds available to carry him right through his course. If he is a married man he receives \$62.40 a month, plus fees, while taking training. In addition to that, he receives

allowance for dependents—\$12 for the first child, \$12 for the second, \$10 for the third and eight dollars each for the next three children.

The universities, through their association of presidents, already have prepared tentative matriculation requirements for returned soldiers. This has not as yet been made public. I can assure you that any prospective university student with industry and intelligence who really wishes to get ahead, will not be stymied, shall I say, as a result of the barrier of lacking one or two or three subjects of his senior matriculation.

As a result of the amendment to the Order in Council it will be possible in certain cases after March 1, as the minister explained recently in one of his public addresses, for these young scientists, and so on, to take courses in England, Scotland, Ireland, or elsewhere, if adequate facilities are not available in Canada. That concession is limited to special cases. You could understand, for instance, that a lad who enlisted in the Canadian army may have been doing special research work in glandular abnormalities, say, at John Hopkins University. He comes back and wants to return there. We could make provision to enable him to do so.

Dental Health and Public Relations Committee Statement

Members

- Dr. G. R. Hennigar, Halifax, N.S.
- Dr. W. E. Mounteer, Regina, Sask.
- Dr. W. W. Wright, Winnipeg, Man.
- Dr. W. E. Webber, Edmonton, Alta.
- Dr. S. C. Hodgson, 306 Tegler Bldg., Edmonton, Alta.
- Dr. S. K. Donald, Moncton, N.B.
- Dr. G. Lord, Montreal, Que.

The members of this Committee have been appointed as Provincial Chairmen and representatives on the Canadian Dental Association Committee by their respective Provinces. No appointment has as yet been made by British Columbia or Prince Edward Island. In Alberta two men have been appointed in order to separate the different functions.

The Chairman was appointed by the Delegates at the last meeting and has corresponded with each Provincial Delegate in the organizing of the Committee.

The subject of Vocational Guidance of Secondary School Students has received some attention though the main activity has centered about the problem of establishing Dental Lectures to Nurses in Training as a definite part of the course in each hospital school in each Province.

A booklet on Prenatal Care, prepared by the Ontario Dental Association Public Dental Health Committee is ready for release and will be forwarded to each provincial Committee for distribution to each dentist. It is hoped, that in time, with the co-operation of each Province, that further material may be made available.

A. E. Higgins,
Chairman C.D.A. Dental Public Health
and Public Relations Committee

Change in Chairmanship of Journal Committee

Dr. C.H.M. Williams of Toronto has relinquished the chairmanship of the Journal Committee and is succeeded by Dr. S. A. Moore of London, Ontario.

Dr. Williams has made a real contribution to the Journal during his term of office. His efforts are to be easily recognized in both the visible changes which have occurred recently in the make up of the Journal and also in the great assistance he has been in the many details of operation. We are pleased that he still remains a member of the Committee.

Dr. Moore, having been the Business Manager of the Journal from its inception until recently, is admirably fitted to be Chairman of the committee and we anticipate real success under his capable guidance.

Pamphlet on Health Insurance

An insistent demand for more publicity upon the Association's activity on the matter of health insurance has resulted in the decision to publish a pamphlet containing the various presentations which have been made. It is true that part of the subject matter has previously appeared in the Journal but this collected material will appear in the pamphlet in proper sequence up to this date.

It is intended to distribute this pamphlet, as far as possible, to all members of the Association, wherever they may be at present.

**Comment by Chairman of Procurement,
Assignment and Rehabilitation
Committee**

A word of appreciation is due the men who have been active on the various committees in this work, much of which has been accomplished under great handicaps.

Early in the activity of this task assistance was requested from the Government in order to accomplish the desired ends. The requested regulations were not obtainable, at least not in a form suitable to the Association. However, the accomplishments have been amazingly large when added together. Through the assistance and advice of the committees:

(a) Members have been recommended for enlistment in the Corps, wherever their services could be spared.

(b) Members have voluntarily agreed to

remain in civilian practice where their services were essential.

(c) Members have voluntarily moved into areas depleted of dental services and consequently saved the situation.

(d) The difficult situation regarding dental technicians finally received recognition through the efforts of the committee.

(e) Numerous data have been compiled and supplied where requested.

(f) Through the collected data, study is progressing on the matter of rehabilitation.

All of which has meant sacrifice on the part of members who have worked consistently on these difficult problems. The Corps has co-operated throughout. This means that the dental profession has been able to manage all matters relating to the profession rather than having extraneous bodies doing so.

G. V. Fisk, Chairman.

NEWS FROM THE PROVINCES

QUEBEC:

Montreal Dental Club

At the Club rooms of the Montreal Dental Club, Dr. Gabriel Lord gave a very instructive clinic on Full Dentures using the McGrane technique. His clinic consisted of impression taking of full upper and lower, taking the bite with pin-tracer, try-in and insertion of completed cases.

Dr. Lord had several patients present themselves who were wearing dentures made according to the McGrane technique. These patients, without exception, were more than satisfied with the results obtained by Dr. Lord. Among those patients were some with mouths that were anything but ideal for dentures, yet the results in these difficult cases were excellent.

Dr. Lord is President of La Société Dentaire and recently was appointed head of the Prosthetic Department of the University of Montreal. Congratulations Dr. Lord.

The Clinician was thanked by Dr. I. K. Lowry of McGill University. The meeting was a great success.

The President of the Montreal Dental Club, Dr. Reg. Winn, was in the chair.

Refresher Course

A "Refresher Course" for graduate dentists of Montreal was given at McGill University on March 1 to 3. The course dealt with dentistry for children. Sponsoring the course, in addition to the two universities, were the Canadian Dental Hygiene Council and the Oral Hygiene Commission of the College of Dental Surgeons of the Province of Quebec.

NEW BRUNSWICK:

C.D.A. Fees

The New Brunswick Dental Council has decided unanimously to pay fees to the Canadian Dental Association for all its registered men serving in the Armed Forces, who had previously practised in the province.

NOVA SCOTIA:

50th Anniversary

Dr. Howard Burchell celebrated the 50th anniversary of his graduation from the Pennsylvania College of Dentistry on March 8. Dr. Burchell practised for some years in North Sydney and retired a few years ago. When war broke out he felt that there was something he could do to help out and is now

practising in Sydney to do his bit in looking after some of the patients of the men in the Corps.

PRINCE EDWARD ISLAND:

Mayor of Charlottetown

Dr. J. E. Blanchard is the first dentist to have been elected Mayor of Charlottetown.

He was P.E.I. delegate to the Canadian Dental Association in 1934 and attended the International Dental Meeting in London, England, in 1936.

Dr. Blanchard was graduated from the Baltimore College of Dental Surgery in 1916 and for three years served in the Canadian Army Dental Corps in the last war.

BRITISH COLUMBIA:

Annual Report (1943-1944) of the Vancouver Women's Auxiliary to the Canadian Dental Corps

The annual meeting of this Auxiliary was held on January 3 with the president Mrs. B. Lundahl in the chair.

Mrs. R. J. Stewart gave a very interesting report on the activities of the Auxiliary for the past year. Mrs. A. W. Smillie reported a membership of 44 and that the sum of \$1211.50 was raised. This money was realized through membership fees, donations, monthly meeting raffles, a coffee party and address by Mrs. O. Leslie, a picture showing by Mr. C. Schroeter, produce and home cooking sales, and a jam and pickle raffle.

Mrs. C. French reported a busy year for the ways and means committee, the sum of \$487.00 being raised through their work.

Mrs. C. Hallman stated that men of the Dental Corps in hospital were visited and given comforts and that gifts had been given to those departing on Active Service.

Mrs. A. Gunning reported that parcels twice during the year and cigarettes each alternative month had been sent to all officers and men in the Corps serving overseas. Scrap books, made by the Auxiliary, were also sent. A luncheon, put on as a membership drive and to which the wives of visiting dentists, during the dental convention, were invited to attend, was held in May.

Numerous interesting letters were received

from the men in which they expressed their hearty appreciation and grateful thanks to the Auxiliary for the work being done for them.

Mrs. B. Lundahl, the President, in her closing remarks to the Auxiliary, said she had spent a pleasant year in her work with the Executive and members, all of whom she said had so willingly worked and co-operated with her, while the Auxiliary had shown the high esteem in which she was held in their re-electing her as President for the coming year.

Speakers for the year were: Miss Jean Campbell RN, on "Vocational Nursing", Mrs. O. Leslie on "Sir Christopher Wren" and Mrs. G. Busted on "Women's Voluntary Services".

Members elected to serve on the Executive for the ensuing year are:

Honorary President—Mrs. H. A. Simmons.
President—Mrs. B. Lundahl.

1st Vice-President—Mrs. R. G. Foster.

2nd Vice-President—Mrs. E. G. Bryant.

Recording Secretary—Mrs. R. H. Colbourne.

Corresponding Secretary—Mrs. W. J. McRoberts.

Treasurer—Mrs. J. F. Hill.

Press Reporter—Mrs. E. Hornibrook.

—Margaret Hornibrook.

ALBERTA:

C.D.A. Support

At a meeting of the Board of Directors of the Alberta Dental Association held on January 15, 1944, the following resolution was passed:—"Resolved that the Alberta Dental Association shall make a grant to the Canadian Dental Association for 1944 computed on the basis of \$4.00 for each member of the Association licensed in the province for the current year, including those members now in His Majesty's Armed Forces who were in practice in the province since October 1, 1939, and before enlisting."

•

Calgary Dental Society

The newly elected officers of the Calgary Dental Society are as follows:—

President, Dr. D. E. Green.

Vice-President, Dr. H. Baden Powell.

Secretary-Treasurer, Dr. Art Steeves.

SASKATCHEWAN:

C.D.A. Fees

Saskatchewan has decided to pay fees to the Canadian Dental Association for all its registered men who are in the Armed Services.

Rotary Club Dinner at Watrous

Dr. R. W. Clements of Watrous spoke on "The Romance of Dentistry" at the Rotary club dinner held February 8. Guests present included the Imperial curling team, district winners of the MacDonald Brier Consols competition.

Regina Dental Society

The Regina Dental Society at its February meeting had as its guest speaker Dr. W. A. Riddell, Provincial Pathologist, who gave a splendid and thought-provoking paper on "Feeding the World in the Post-War Period". The members considered Dr. Riddell's paper a real contribution to one of the many problems that face the world in the important period following cessation of hostilities.

The March meeting consisted of three separate meetings on March 21 and 22. On the 21st, Dr. H. R. MacLean of the Faculty of Dentistry of the University of Alberta gave a clinic in the afternoon on "Gold Foil" and at a dinner meeting in the evening gave a paper on "Amalgam" illustrating his paper by means of a film.

On Wednesday, March 22, Dr. M. H. Garvin of Winnipeg, Editor-in-Chief of the Journal of the Canadian Dental Association, addressed the Society on "Post-War Dental Problems". This meeting was also a dinner meeting held at the Drake Hotel. The members of the Moose Jaw Dental Society were invited to attend these meetings which most of them did, and considered them decidedly profitable.

MANITOBA:

Winnipeg Dental Society

Major J. M. Grahame, one of Winnipeg's prominent dentists, but at present serving his King and Country in the Dental Corps as Officer Commanding the Dental Company at Regina, was the guest speaker and clinician at

the February meeting of the Winnipeg Dental Society.

In private practice Dr. Grahame was a specialist in pedodontia, but joining the Dental Corps forced him into general practice for the troops. However his natural tendency to specialize soon reasserted itself and it was not long until he had developed a speedy technique for full denture service. In fact he finally brought it to such smoothness of perfection that he established an all time record for the number of dentures completed and inserted in one month, well over the hundred mark. No lost motion there!

It was this method that he was asked to demonstrate before the Society on February 28. It so happened that this date conflicted with the Minnesota annual dental convention and as about 40 of our men were away for that we feared that "Jack", as we know him, would have a slim crowd out. But our fears were groundless for the usual number were there and glad they were too. "By their fruits ye shall know them." Dr. Grahame's dentures stay put and do not hurt. Perhaps the Journal may be permitted to publish the technique if it is not giving away military secrets by so doing.

Dr. A. W. Myles, the President of the Society, was in the chair and was well pleased with the whole evening.

Dental Nurses and Assistants

The Winnipeg Dental Nurses and Assistants held their monthly meeting on February 14 at the St. Regis Hotel. The guest speaker, Dr. Donald Huggins, gave an interesting, instructive and educational address on Venereal Disease.

Miss Vena Veal, a Life Member of the Association, has severed her connection with dentistry after 28½ years, to take up a new position as Superintendent of the Children's Home. A presentation was made by Miss Mary McArthur and Margaret Gilbert.

At the March meeting the guest speaker was Miss Eileen Falloon, an exchange teacher, who gave an interesting account of her experiences during "the Blitz" of London.

—MARILYNN ROLAND.

ONTARIO:

The Ontario 'Dental Nurses' and Assistants' Association

THE PATRIOTIC DONATORS AND KNITTERS CLUB:—Since the outbreak of War the O.D.N. & A.A. War Club, known as the P.D.K.C., have given to the armed forces in Canada and Overseas, Fifteen Thousand Dollars retail valuation of knitted comforts, toilet goods, stationery, and Canadian table foods.⁶

Monies raised by members and donated \$2542.35.

Weight of wool knitted into comforts 1350 lbs.

Hospital felt shoes made from hats, garments for children in blitzed hospitals in England 735 items.

Tablefoods shipped to Canadian Dental Corps Overseas 689 lbs.

Mail bag from England, 850 letters, 33 cables, 58 Christmas cards.

During the four and one-half years of war we have hand packed and shipped overseas 640 parcels to the Officer Commanding in each of the Canadian Dental Corps Companies serving overseas; to the Tenth Canadian General Hospital, and the Canadian Ex-Service-men's Association, England.

We have helped to raise 600 pounds sterling from used stamps sent direct to the Lord Mayor, Portsmouth, England.

We have filled 450 Kit Bags, each valued at ten dollars for the Canadian Soldiers in Christie Street Hospital, and sponsored eight Hospital parties, entertaining 75 wounded soldiers on each occasion.

We have shipped to England case lots of soap, razors, kleenex, writing paper and chocolates.

We have received our Fifth War Charter from Ottawa, our books are audited annually by a certified auditor, who submits our financial statement to the War Charities Office, Ottawa.

The report has been prepared by Leta Blaber the Provincial War Convener, from the certified audit of the books.

TORONTO A.A. entertained the provincial President, Miss Loretta McCaughey, London, who gave a paper "My Letter Phylis", in the witty style so characteristic of her.

HAMILTON A.A. had Dr. R. P. Lowery of Toronto and Chairman of the Public Dental Health Committee, who gave a most interesting talk on Public Dental Health. We were honoured in having Dr. T. R. Marshall, of Toronto, speak to us as well, and he showed two sound films. Dr. A. R. Poag introduced our guests.

LONDON A.A. devoted the night to poster making and plans for the convention.

BRANTFORD A.A. packed their box to be forwarded to the P.D.K.C. Each member donated small articles and the completed quilt was included.

WINDSOR A.A. held their meeting in the Canada Building with Dr. Chester Perry, illustrating his subject of "Boxing of Denture Impressions".

KITCHENER A.A. held a discussion night and it was conducted by Ruth Meek, Larry Ohlheiser and Anne Kirkland on the "Department of the Dental Nurse".

IREAN C. BRUCE.

Ottawa Dental Society

Dr. Thomas Provost was elected President of this Society at its annual dinner meeting held in the Quebec Suite of the Chateau Laurier Hotel. Other officers elected were: Vice-president—Dr. Harold Armstrong, Secretary—Dr. Paul Coté, Counsellors—Dr.'s Fred Thompson, Jack Lawrence, George Barrett, Amie Courture, Elwin S. McCartney and Capt. John French. Dr. Oliver Martin and Miss Leta Harper, President of the Ontario Dental Assistants' Association, were speakers of the evening. Capt. W. O. Gardiner presided.

Toronto Academy of Dentistry

The final meeting of this Society was held on March 14, at Osler Hall, Queen's Park. The Essayist was Dr. Howard C. Miller, and his subject was "Surgery". At the conclusion of the meeting the 1944-45 slate of officers were presented to the members. They are as follows:

Past-President—Charles McLean.

President—Harold R. Skilling.

President Elect—Harold A. Swales.

Secretary—H. C. Bliss.

Treasurer—F. H. Shepherd.

Councillors—J. H. Johnson, V. S. Wilson,

Earl Bancroft, C. W. Soules, P. G. Anderson.
Chairman—P.D.H.—E. A. White.
Chairman—War Services—Howard Graham.

Class 2T3

At the Ontario Dental Association Convention last May, a 2T3 Reunion Dinner was held celebrating twenty years since graduation. At that dinner it was unanimously decided to open a fund for scholarship purposes to perpetuate the name and memory of the Class 2T3.

A short time ago 2T3 Class members received a letter relative to this fund soliciting their support. The Committee is pleased to report that to date thirty odd subscriptions bring the fund close to eight hundred dollars. This is very encouraging but only represents ten per cent of the class. We know the balance of the class intend to make their con-

tribution but have overlooked attending to it. So "Shower it down, boys," "Whiz Bang! Over the Top" for our \$2500.00 objective.

A class dinner is being planned for the Monday evening, May 29th, at the Royal York Hotel, during the Ontario Dental Convention. If you intend to be there, please notify Dr. J. C. Fullerton, 2 College Street, Toronto, 2.

CLASS 1T9

This is the year of our Silver Anniversary reunion. Every fellow who started or graduated with our class is urged to be present at the Ontario Dental Convention, Royal York Hotel, Toronto, for our twenty-fifth anniversary in May. We are looking forward to a grand evening together once again. Let everyone turn up and make it a huge success.

Watch for further announcement in the next issue of the Journal.

GENERAL NEWS

Addition to Dental Act

The following has been added to the Dental Act in the State of Washington, U.S.A.: "X-ray diagnosis as to the method of dental practice in which the diagnosis and examination of the normal and abnormal structures, parts or functions of the human teeth, the alveolar process, maxilla, mandible or soft tissues adjacent thereto, is hereby declared to be the practice of dentistry. Any person who makes any diagnosis or makes any interpretation or explanation, or who attempts to diagnose or to make any interpretation, or explanation by word of mouth, writing or otherwise of the registered shadow or shadows of any part of the human teeth, alveolar process, maxilla, mandible or soft tissues adjacent thereto by the use of x-ray is hereby declared to be engaged in the practice of dentistry: Provided, that nothing in this act shall be construed as preventing a regularly licensed physician and surgeon from making any such diagnosis, interpretation or explanation.

Institute Expands Film Program

The Dental Hygiene Institute's educational film program of the Chicago Dental Society

is expanding. In addition to showings before clubs, the Institute, during the past several months, has been showing its film before high school audiences.

Showings before women's clubs, parent-teacher groups, church organizations, and men's service clubs continue.

Organizations outside the Chicago area are using the Institute's films in their lay education programs.

Association of Endodontists Formally Organized

The first official meeting of the American Association of Endodontists was held in Chicago, February 23-24. This title was selected from a number during the business meeting at which a constitution was adopted that defined the purposes of the organization as follows: 1. To promote interchange of ideas on methods of pulp conservation and root canal treatment; 2. To stimulate research studies; 3. To assist in establishing local root canal study clubs; 4. To help maintain a high standard of root canal practice within the dental profession by disseminating information through lectures, clinics, publications,

etc.; 5. To create a greater appreciation for the pulpless tooth through public and professional education.—*Fortnightly Review, Chicago, D. Soc.*

Chicago Dental Society Midwinter Meeting

The total registration for the 1944 Meeting exceeded that of any previous Chicago Dental Society Meeting with the exception of the Meeting held in conjunction with the American Dental Association during the Century of Progress Exposition in 1933. The tabulation of the various classes of registrants follows:

Chicago Dental Society Members	2,167
American Dental Association	
Visitors	4,377
Physicians, Health Nurses, Students, Family, Assistants, Hygienists, Lay Guests, Laboratory Technicians, Exhibitors Representatives	4,815
	11,359

Registration—1944 Meeting Minnesota State Dental Association

Members, Minnesota State Dental Association	1,185
Dentists from other states	318
Dentists from Canada	57
Total number of dentists	1,560
Students, Hygienists, Assistants, Exhibitors, and other guests	1,097
Total Registration	2,657

Dental Educators Meet in Chicago

The American Association of Dental Schools held its twenty-first annual meeting at the Drake Hotel in Chicago, March 20, 21 and 22. The various problems in dental education were discussed by prominent educators. Practically every dental school in the United States and Canada was represented at the meeting.

IN MEMORIAM

Harry Dier of Vancouver, British Columbia, died February 18. He was a native of St. Thomas, Ontario, and moved to British Columbia fifty years ago. He began practice in Victoria in 1903 and moved to Vancouver eleven years ago.

Dr. Dier is survived by his widow, one son, three daughters, one brother and seven grandchildren.

Honoré Thibault of Montréal, Québec, died, at his home on February 27.

Dr. Thibault was graduated from the Faculty of dentistry of l'Université de Montréal in 1914. For twenty years he was Editor-in-chief of "La Revue Dentaire Canadienne" and for ten years Secretary of "La Société D'Odontologie de Montréal."

He is survived by his widow, née Jeanne Beauchemin and two brothers.

Warren E. Bruce of Toronto, Ontario, aged 55, died suddenly on February 29. He was graduated from the Royal College of Dental Surgeons in 1910 and has practised in Toronto since that time. He was a member of the Lakeview Golf Club, the Canadian Order of Foresters, the Orange Order and the Masonic Order.

Dr. Bruce is survived by his widow, his mother, a brother and a sister.

J. D. Paquin of Three Rivers, Quebec, aged 47, died February 21 following a long illness. He was admitted to the practice of dentistry in 1920 and after spending some years in the Lake St. John district moved to Three Rivers twelve years ago.

He was an ardent sportsman until ill-health interfered. Dr. Paquin is survived by his mother.

. . . SECTION FRANÇAISE . . .

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenant, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Veane, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAUDEAU, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

“The Apollonian”

Deux ou trois numéros de cette revue dentaire publiée à Boston me sont arrivés l'an dernier, je ne sais trop comment.

Dans le temps, je leur prêtais peu d'attention, je l'avoue. Mais depuis, je me suis donné la peine de les examiner plus sérieusement. A ma grande surprise et aussi à ma courte honte, je le confesse, j'avais jeté sur les tablettes de l'oubli trois exemplaires d'une des plus belles revues dentaires publiées aux Etats-Unis.

The Apollonian, est le journal officiel des corporations fédérées de Sainte Apolline, (vierge d'Alexandrie, martyre en 248) et patronne des dentistes. Il fut fondé vers 1925 par Frederick A. Keyes D.M.D., L.L.D., un des hommes les plus éminents de son temps. Le directeur actuel est le Dr Joseph A. Doherty, D.M.D., L.L.B., B.S., M.S., est un personnage dont il faudra parler plus tard, car les nôtres se doivent de le mieux connaître.

Si j'en juge par les exemplaires que je possède, ce journal catholique est remarquable par le souci qu'on tous les collaborateurs d'être sérieux dans leurs écrits. C'est un journal vraiment scientifique écrit dans une langue respectable.

Je viens d'apprendre que le docteur Doherty est actuellement en service militaire et que l'Apollonian a temporairement suspendu ses publications.

Souhaitons qu'il revienne au plus tôt et que son journal continue son oeuvre bienfaisante.

A. Thibauudeau D.D.S.

Bacteriologie de la Bouche

par ANTONIO RENY, D.D.S.

1.—Generalities:—

Afin que le titre de ma conférence ne donne lieu à aucune confusion, permettez-moi de spécifier dès le début que mon intention est de vous entretenir exclusivement des microbes spécifiques à la carie dentaire; il aurait été sans doute plus logique d'intituler mon sujet: *BACTERIOLOGIE DE LA CARIE DENTAIRE*.

La bouche, à l'état normal, contient une grande quantité de microbes, qui peuvent devenir pathogènes, et causer des troubles plus ou moins sérieux.

Le fuso-spirochète est un hôte habituel de la bouche. C'est cependant le microbe spécifique de la gingivite nécrotique que l'on appelle communément l'Angine de Vincent. Il en est ainsi du streptocoque hémolytique, soit seul ou associé au streptocoque non-hémolytique salivaire ou fécalis (enterocoque). Le streptocoque non-hémolytique est généralement associé à des stomatites ou gingivites chroniques qui peuvent causer des troubles systémiques, comme l'endocardite, dite d'origine dentaire, néphrites, rhumatismes, etc. Quelques auteurs ont même diagnostiqué des cas d'ulcères digestifs dûs à des infections de ce genre. Cependant, la carie dentaire a une étiologie particulière, et quoiqu'elle ait été l'objet de bien des contradictions de la part des nutritionnistes, des chimistes et des bactériologistes, je crois qu'en ce qui concerne ces derniers du moins, les recherches ont été poussées assez à fond pour avoir des données passablement précises dans ce domaine.

2.—Historique:—

C'est à Miller, bactériologiste anglais du dernier siècle, que l'on doit la découverte de l'invasion microbienne dans le processus de la carie dentaire. Par une série d'expériences simples et ingénieuses, il a démontré qu'il existe dans la salive une substance qui a la propriété de réagir sur les hydrocarbonés et former l'acide lactique. Cette réaction de se produit pas lorsque la salive a été bouillie au préalable, ou encore traitée avec un antiseptique. Il en déduit donc, et avec raison, que les lésions initiales de la carie dentaire sont dûes à la fermentation de certains aliments sur ces mêmes dents. Bien que la théorie de Miller ait été mise en doute par plusieurs, elle demeure pratiquement la même de nos jours. Notons, en passant, que Moro, en 1900, a réussi à isoler le *B. Acidophilus* des matières fécales de nourrissons, facteur qui est reconnu aujourd'hui comme l'agent principal de la carie dentaire. Plusieurs auteurs ont même baptisé le *B. Acidophilus*: *BACILLE DE MORO*.

Coadby, continuant les expériences déjà commencées, a démontré par la suite que si la maladie est dûe à l'acidosis généralisé de la salive, la destruction de l'émail par la carie sera beaucoup plus étendue et sévère; c'est pourquoi il divise la carie en deux classes: la *rampante* ou celle qui affecte plusieurs dents à la fois, et la *carie lente* qui s'attaque à chaque dent en particulier; ces deux types, d'après Coadby, ont une grande différence bactériologique. Dans le premier cas, les microbes fermenteurs prédominent dans la cavité buccale, et peuvent même s'y trouver quarante fois plus nombreux que tous les autres organismes réunis dans la bouche, tandis que dans les cas de carie lente, la proportion du microbe acidurique est beaucoup inférieure. Il est bon de noter aussi que dans les cas de bouches saines, ou non susceptibles, ce sont les microbes de la putréfaction qui prédominent. Coadby mentionne comme producteurs d'acide: le staphylocoque, le streptocoque, ceux du groupe *Lactobacille*, et un "Acid forming bacillus" qu'il désigne sous le nom de bacille *Nécrodentalis*. Nous verrons un peu plus loin que ce dernier est plutôt considéré aujourd'hui comme une forme du *B. Acidophilus*.

Est-ce que tous les microbes ci-haut mentionnés peuvent être considérés comme agents spécifiques de la carie dentaire? Plusieurs auteurs ont prétendu que les microbes de la putréfaction agissaient comme cause principale. Est-ce qu'ils avaient tort? Les *Staphylocoques* et les *streptocoques* sont des "fermenteurs"; le *staphylocoque pyogène*,

par exemple, fermente le lactose, le glucose, le maltose, la saccharose, le mannitol et le glycérol; et nous savons que les sucres jouent un grand rôle dans la classification des streptocoques. Nous pouvons différencier le streptocoque pyogène (hémolytique) du streptocoque fécalis (non hémolytique) par le moyen des carbohydrates. Ces derniers fermentent le mannitol tandis que le streptocoque pyogène en est incapable. Il est cependant reconnu aujourd'hui que les microbes de form coccale ne jouent qu'un rôle secondaire dans la phénomène de la carie dentaire.

Kliger a démontré d'une manière non équivoque que les streptocoques sont des hôtes normaux dans les cas non susceptibles; ils s'y trouvent peut-être en plus grand nombre dans les bouches non-hygiéniques, mais les caractéristiques générales du milieu ne sont pas changées quel que soit l'état de propreté de la bouche, dans tous les cas de dents saines. Il n'en est pas ainsi dans les cas susceptibles à la carie dentaire; d'après Kliger, la forme coccale est "dropped into obscurity" tandis que les lactobacilles prédominent, et l'auteur de continuer "for the present, it is clear that the early stages of caries are bacteriologically due to one and the same process, characterized by a great increase in the number of acidific and thread-forming organisms." Ce dernier microbe dont fait mention Kliger doit sans doute correspondre aux fuso-spirochètes auxquels j'ai fait allusion au début de cette étude. L'auteur prend bien soin d'ajouter que dans les cas de carie avancée, bien que le nombre des microbes soit diminué, la quantité du bacille acidurique reste la même. Cette diminution dans le nombre des microbes est due à la disparition complète du genre qu'il appelle "thread form", et à la diminution très marquée des microbes de la putréfaction. Il attire aussi l'attention sur le fait que le bacille acidurique qu'il a isolé, ressemble à tout point au Bacille Nécrodentis de Coadby et au B. Acidophilus de Moro.

Ajoutons enfin que Howe et Hatch ont eux aussi démontré clairement que le B. Acidophilus prédomine dans les cas de carie dentaire, et afin d'éliminer toute contagion, ils ont eu l'idée d'insérer des ciments temporaires sur des dents cariées de quelques-uns de leurs clients, sans toutefois nettoyer les cavités; après quelques semaines, des cultures ont été prélevées. Ils réussirent ainsi à isoler le B. Acidophilus dans chacun des cas.

Ce qui précède est suffisant, je crois, pour prouver: 1.—que le processus de la carie dentaire est de nature microbienne, et 2.—que ces microbes appartiennent aux groupes des Lactobacilles que l'on nomme B. Acidophilus.

3.—*Qu'est-ce que le Bacille Acidophilus?*

Nous venons de dire que le B. Acidophilus fait partie du groupe des Lactobacilles. Or voici ce que dit le bactériologiste Bigger, en ce qui concerne ce genre de bacille: "A considerable number of bacilli, which may be grouped together under the term 'lactic acid bacilli' and which constitute the genus Lactobacillus, are found in the human intestine. They are all Gram positive, non-motile, non-sporing bacilli which ferment carbohydrates, usually without gas production. The most important member of the group is Lactobacillus acidophilus."

Bigger fait une différence entre le B. Acidophilus qui, paraît-il, existe en grand nombre dans les matières fécales des nouveaux-nés, et le microbe spécifique de la carie dentaire; il nomme ce dernier Lactobacille Odonticulus. Il ne dit pas cependant s'il existe une différence bactériologique entre les deux.

Mackie et McCartney prétendent que le B. Acidophilus est ainsi nommé parce qu'il a la propriété de se multiplier dans un milieu très acide (PH 3 et 4); et bien qu'ils reconnaissent que ce microbe se retrouve dans la salive en plus du lait et des matières fécales, ils font eux aussi la même différence que Bigger, en ce qui concerne le microbe spécifique à la carie dentaire, sans plus d'explication cependant.

En plus des deux microbes plus haut mentionnés, Bigger ajoute comme membre de la famille des Lactobacilles: le B. Bulgaricus, le B. Boas-Oppler, le B. Bifidus, et

un certain nombre d'autres organismes qu'il a réussi à isoler du lait caillé, et de d'autres aliments carbohydrates.

4.—*Subdivision du Bacille Acidophilus:*

Bien qu'il soit presque universellement reconnu aujourd'hui que la carie dentaire soit due à la fermentation des hydrocarbonés par les microbes de la famille des Lactobacilles, d'aucuns ont prétendu que les colonies du *B. Acidophilus* dans les cultures avaient telle apparence, alors que d'autres ont affirmé le contraire; il en est ainsi pour ce qui concerne l'acidité des cultures. D'aucuns ont prétendu que le *B. Acidophilus* se développait très bien au PH 3, par exemple, alors que d'autres ont cherché à prouver que la limite d'acidité du milieu ne peut aller plus loin qu'au PH 4. Nous avons vu aussi que Coadby a trouvé qu'en plus des lactobacilles, il existait un autre microbe producteur d'acide dans la carie dentaire, qu'il désigne sous le nom de *BACILLE NECRODENTALIS*.

La raison de toutes ces opinions divergentes, c'est que l'on a prouvé depuis que le *B. Acidophilus* existe sous trois formes différentes, et bien que le mérite de cette découverte soit attribuable à McIntosh, James et Lazarus-Barlow, qui en 1922, ont réussi à isoler deux formes du *B. Acidophilus*, les trois subdivisions de Hadley, Bunting et Delves, de l'Université Michigan, semblent être les plus à point jusqu'à date. Ils divisent le *B. Acidophilus* en trois groupes: les groupes I, II et III. Voici les caractéristiques de chacun d'eux:

LE GROUPE I est grappe positif, a plutôt la forme d'un court coccobacille, et apparaît généralement en chaîne dans les bouillons, et de pair sur l'agar, et les bâtonnets sont généralement courbés. Après 48 heures, les colonies sur la caséine-agar ont environ 0.8 mm. de diamètre; elles sont lisses, brillantes et opaques.

Les organismes du GROUPE II sont légèrement plus longs que ceux du groupe I, les colonies apparaissent en forme de palissade, et ont une apparence lisse, blanche, brillante et distinctement convexe.

Les organismes du GROUPE III sont plus épais et plus obtus que ceux du groupe II, et les colonies ont une apparence intermédiaire entre le rugueux et le lisse; elles sont de plus d'un gris caractéristique.

5.—*Relation du PH et du Bacille Acidophilus avec la Carie Dentaire:*

Une des caractéristiques les plus importantes du *B. Acidophilus*, c'est qu'il peut abaisser le PH à un degré très avancé si on le met en présence des hydrocarbonés. Le groupe de Michigan prétend que le *B. Acidophilus*, groupe I, peut abaisser le PH jusqu'à 3.8, tandis que celui des groupes II et III ne se rend pas plus bas que 4.1. Il a été prouvé que la dent, même l'émail, était soluble dans un milieu acide. D'après le Dr. Theodor Rosebery, l'émail serait cinq fois plus soluble au PH 3.5 qu'au PH 5.4. Il s'en suit donc que le groupe I est beaucoup plus sévère que les groupes II et III. C'est d'ailleurs le groupe I du *B. Acidophilus* qui prédomine dans les cas de carie rampante. Est-il nécessaire d'ajouter que dans le processus de la carie, le microbe n'attaque pas la dent, mais qu'il agit plutôt d'une manière indirecte, c.a.d. que le *B. Acidophilus*, présent dans la salive, fermente les hydrocarbonés, abaisse le PH, entraînant ainsi la dissolution de l'émail d'abord et des autres parties de la dent ensuite.

6.—*Etude Quantitative du Bacille Acidophilus dans la Salive:*

Jusqu'à 1933, les recherches sur le *B. Acidophilus* salivaire variaient pratiquement avec chaque auteur, mais cette année-là, Faith P. Hadley a réussi à mesurer le microbe d'une manière quantitative. La méthode de Hadley, qui est universellement reconnue aujourd'hui, consiste à déposer une certaine quantité de salive dans un plat de petri, contenant de l'agar mélangé à un peu de tomate, le milieu ayant été ajusté, au préalable, au PH 5, avec de l'acide lactique. Après une incubation de trois ou quatre jours, les colonies du *B. Acidophilus* sont facilement reconnaissables parmi la levure et le staphylocoque qui apparaissent souvent dans ces cultures. Il est maintenant possible.

au moyen de cette méthode, de compter la quantité approximative de *B. Acidophilus* par cc de salive. Et dans la majorité des cas, il a été observé que non seulement il existait une relation très étroite entre le *B. Acidophilus* et la carie dentaire, mais aussi entre le degré de carie et la quantité de ces microbes. Si un arrêt de la carie est imminent, le nombre de microbes baisse précipitamment, et vice versa.

On a pu observer, de plus, que la salive peut devenir infectée plusieurs mois avant qu'il apparaisse des signes évidents de carie, et Philip Hay conclut: "It is possible by bacteriologic methods to predict the onset of caries activity with surprising accuracy."

7.—*Relations du B. Acidophilus avec les Hydrocarbonés:*

Que signifient les expressions: non-susceptible et susceptible à la carie dentaire?

Certaines personnes n'ont jamais souffert de carie, bien qu'elles soient dans des conditions absolument semblables à d'autres moins fortunées sous ce rapport: un excès de nourriture hydrocarbonée n'a aucun effet sur leurs dents, et des expériences ont démontré que si dans ces cas le *B. Acidophilus* existe, c'est en quantité minime, et elle restera minime quelque soit la quantité d'hydrocarbonés consommée.

Les cas susceptibles, par contre, se rapportent à tous ceux qui souffrent ou ont déjà souffert de carie dentaire.

Nous avons vu dans le chapitre précédent que la carie dentaire est en relation directe avec la quantité et la qualité du bacille *Acidophilus* contenu dans la salive. Il a été prouvé, de plus, que le nombre des microbes fermenteurs augmente proportionnellement avec la quantité de hydrocarbonés consommée; en d'autres termes, plus un patient, susceptible à la carie, mange des aliments à base de hydrocarbonés, plus le nombre de *B. Acidophilus* contenus dans la salive sera élevé.

L'expérience suivante, faite par Koehne et Bunting, de l'université de Michigan, illustre bien ce que je viens de dire: Ils choisirent une institution dans laquelle le pourcentage de dents cariées était extraordinairement bas, bien que le régime alimentaire ne fut pas en accord avec les principes de diète reconnus comme nécessaires pour la prévention de la carie.

Il est reconnu que pour prévenir la carie, la diète des enfants doit être riche en sels minéraux et en vitamines. Or, ils constatèrent, après une analyse complète de la diète chez tous les enfants, *premièrement*, que la quantité de calcium et de phosphore était en bas de la normale, *deuxièmement*, que l'on faisait usage d'oléomargarine à la place du beurre, *troisièmement*, que le lait était donné en quantité insuffisante, *quatrièmement*, que l'on servait de temps à autre du jus de tomates, mais jamais d'oranges, à l'exception de la fête de Noël, *cinquièmement*, que l'huile de foie de morue n'était donnée qu'aux enfants rachitiques; *sixièmement*, ils notèrent surtout l'absence presque complète du sucre. On ne faisait usage d'aliments sucrés qu'à de très rares occasions, et le sucre n'apparaissait jamais sur la table. Il était de plus défendu de manger des bonbons.

Voilà un groupe d'enfants, vivant dans des conditions inadéquates au point de vue calcification, et qui pourtant ne souffraient pratiquement pas de carie. N'est-ce pas logique de penser que cette situation était due à l'absence presque complète de sucre dans leur régime alimentaire?

Le groupe du Michigan fit une étude quantitative de la salive et des matières fécales à tous les enfants de l'institution, et ils constatèrent que le *B. Acidophilus* n'existait qu'à l'était sporadique (cas isolé).

Ils décidèrent alors de donner à un groupe d'enfants une grande quantité de bonbons, régulièrement, tout en ne changeant pas leur diète générale. Ils analysèrent leur salive à différents intervalles afin de voir si le nombre des microbes fermenteurs augmenterait, et constater leurs effets sur les dents. Comme les autres enfants servaient de contrôle, ils ne devaient, sous aucun prétexte, avoir des bonbons. Or les autorités constatèrent bien vite qu'il était très difficile d'empêcher ces derniers de goûter au "fruit défendu", bien qu'ils aient logé les premiers dans des cottages spéciaux, et de

fait un échange clandestin fut bientôt organisé entre les deux groupes. Il fut cependant possible, en prélevant des cultures positives du *B. Acidophilus*, de retracer, avec une précision vraiment comique, tous ceux qui, dans le groupe des contrôles, avaient été victimes de leur gourmandise. Ils constatèrent, en second lieu, qu'au point de vue bactériologique, la composition de la salive pouvait être modifiée en moins de 48 heures, en ajoutant simplement des bonbons à une diète par ailleurs plutôt très basse au point de vue hydrocarbonés. Cinq mois plus tard, ils découvrirent une augmentation de 85% dans le nombre des cultures positives du microbe fermenteur, et 33% plus de carie.

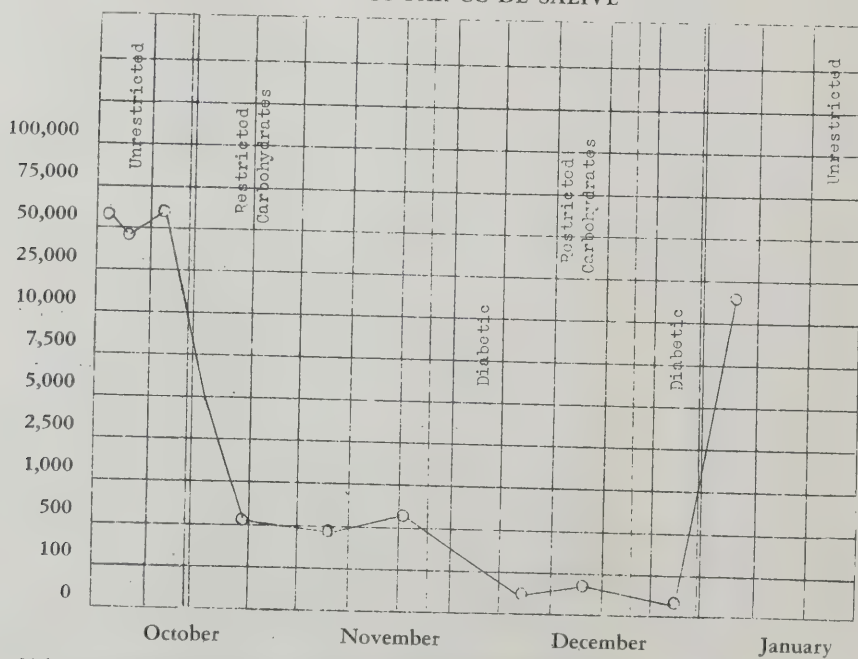
Il est intéressant de noter cependant que parmi ces enfants, quelques-uns n'avaient jamais souffert de carie; l'examen de leur salive en révéla aucun changement dans le nombre du *B. Acidophilus*. C'est une autre preuve que certaines personnes sont immunisées contre le microbe de la carie dentaire.

L'expérience de Bunting et Koehn est une preuve que la multiplication du *B. Acidophilus* dans la bouche est extrêmement sensible à la manipulation des hydrocarbonés dans la diète. 48 heures suffisent, dans bien des cas, pour diminuer d'une manière radicale le nombre des microbes fermenteurs dans la salive, et vice versa, comme l'indique le premier tableau ci-dessous.

Durant la première période d'observation, le nombre approximatif des bacilles était d'environ 50,000 par cc de salive. Immédiatement après l'adoption d'une diète pauvre en sucre, le nombre a baissé à 500 par cc. Le sucre étant défendu chez les diabétiques, le nombre a baissé à 10 par cc. Une semaine après que le patient eut repris ses habitudes premières, (diète riche en sucre) le nombre des microbes fermenteurs atteignait le chiffre de 21,000 par cc de salive.

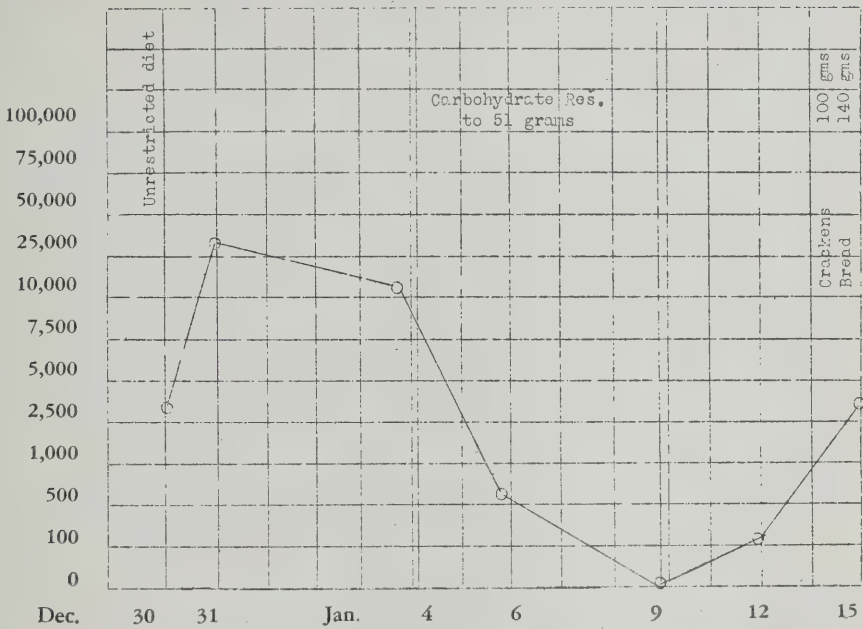
Le deuxième tableau indique le même résultat, si on remplace le sucre par du pain blanc et des biscuits.

B. ACIDOPHILUS PAR CC DE SALIVE



A—Tableau préparé par le Dr. Philip Jay, Dental Art and Dental Science, page 362.

B. ACIDOPHILUS PAR CC DE SALIVE



B—Tableau préparé par le Dr. Philip Jay, Dental Art and Dental Science, page 362.

Je pourrais citer ici d'autres exemples intéressants, mais ce qui précède est suffisant, je crois, pour prouver qu'il existe une relation très étroite entre le B. Acidophilus et les hydrocarbonés.

8.—*Conclusion*: Un nombre incalculable d'articles ont été écrits sur les causes de la carie dentaire; il ne faut pas cependant confondre la cause d'une maladie avec les moyens de prévention.

La fermentation des hydrocarbonés, par les microbes aciduriques contenus dans la salive, est la cause spécifique de la carie dentaire. Je ne veux pas dire par là que la dentisterie préventive doive se limiter au contrôle et au choix des aliments hydrocarbonés dans la diète quotidienne. Il ne fait aucun doute qu'une dent mal calcifiée sera plus facilement attaquée par l'acidité produite par la fermentation, ce qui veut dire qu'une diète riche en sels minéraux et en vitamines, à la future maman, à la mère qui nourrit, et surtout à l'enfant, procurera à ce dernier une dentition bien calcifiée qui résistera davantage aux attaques de la carie dentaire.

Mais manque de calcification n'est pas une cause directe de carie, puisqu'il est possible, sinon d'arrêter, du moins de diminuer la marche de cette maladie, en abaissant d'une manière rationnelle la consommation des hydrocarbonés dans la diète. Les expériences du Dr. Arthur Ham (Oral Health, page 350) et du Dr. Bunting (Gordon, Dental Art and Dental Science) sont très concluantes sous ce rapport.

La périodontie, l'orthodontie préventive et la nutrition sont des matières très importantes de la dentisterie-préventive, comme l'ont si bien démontré les distingués professeurs qui nous ont entretenus sur chacune de ces matières. Mais bien que ces branches de la dentisterie-préventive soient indispensables, nous aurons toujours des résultats relatifs, en ce qui concerne la prévention de la carie proprement dite, si nous ne donnons pas aux hydrocarbonés l'importance qu'ils méritent.

Les principales sources des hydrocarbonés sont par ordre de mérite: les sucres, les

céréales, les fruits et les légumes. Tous ces aliments n'ont cependant pas le même effet nocif sur les dents. Il a été prouvé que le *B. Acidophilus* n'a presque pas d'effets sur les fruits et les légumes, quoique ces derniers soient des sources importantes de hydrocarbonés. (Une orange moyenne, pesant 25 grammes, contient environ 22 grammes de carbohydrates.) Il en est ainsi des aliments préparés avec des céréales dites de grains entiers; Maxwell Kars Ham prétend que ceci est dû au calcium et au phosphore contenus dans les produits naturels, éléments qui sont enlevés dans le procédé de raffinerie. D'autres ont affirmé que la vitamine B Complex joue un rôle principal dans ce phénomène. Quoiqu'il en soit, il est reconnu aujourd'hui que les fruits, les légumes, et les céréales à l'état naturel sont très peu fermentables, surtout les deux premiers. Ils ne sont donc pas considérés comme des agents spécifiques de la carie dentaire.

Quels sont alors les aliments hydrocarbonés qui ont un effet si désastreux sur la dentition humaine? La farine blanche (les amidons) et les sucres raffinés.

Le pain blanc, de même que toute pâtisserie préparée avec de la farine blanche, sont des causes de fermentation très prononcée, comme le démontre le tableau que je vous ai fait voir tout à l'heure. (Tableau B du Dr. Hay) Aussi, je ne saurais trop encourager la campagne entreprise dans certains endroits de la Province en faveur du pain brun, ou à grain entier. La campagne en faveur du pain brun est un pas vers la prévention de la carie dentaire, et j'invite tous les dentistes, spécialement les dentistes hygiénistes, non seulement d'aider ce mouvement, mais de l'organiser là où il ne l'est pas encore. Les résultats seraient encore plus pratiques, cependant, au point de vue hygiène dentaire du moins, si nous pouvions englober dans cette campagne, en plus du pain, toutes les pâtes alimentaires. Ça viendra peut-être plus tard.

Et les sucres raffinés! Qu'entendons-nous par là? Le sucre de table, le sirop, les bonbons, les chocolats, etc. Nous avons vu, dans le chapitre traitant des relations du *B. Acidophilus* avec les hydrocarbonés, quelle influence ont eue les bonbons chez les enfants d'un orphelinat du Michigan. J'aurais pu citer une centaine d'exemples semblables. Savez-vous quelle quantité de sucre et de sirop a été consommée dans notre Province en 1942? Près de 300 millions de livres, d'après les statistiques fédérales, et l'on prend soin d'ajouter, que ce chiffre ne représente que 82% de la quantité consommée avant la guerre.

On a prétendu que la carie dentaire était la maladie des gens civilisés; à ce compte, nous pouvons nous vanter d'être à la page! Nous pourrions ajouter que le sucre est le met favori des pays civilisés.

Il ne sert à rien de chercher "midi à 14 hrs", comme l'on dit en bon canadien, la cause principale du mal, la voilà!

Quelles sont les familles qui n'ont pas leur sac de bonbons ou leur boîte de chocolats en permanence dans la maison? A peine l'enfant a-t-il un an que l'on s'empresse de lui faire goûter au "fruit défendu"; on lui donne un bonbon ou un chocolat, et on le surveille afin qu'il ne s'étouffe pas en l'avalant "tout rond". L'habitude est déjà prise, et chaque fois que l'on "passera le plateau", l'enfant réclamera sa part, et ce jusqu'à ce qu'il puisse piger lui-même dans la boîte de "Laura Secord" de sa maman. Combien d'enfants passent leur journée un "suçon" collé au palais, et vous savez que bien des grandes personnes sont *enfants* sous ce rapport! L'autre jour, en revenant de Montréal, je me trouvais à bord du train avec un de mes amis; à un moment donné, il me fit voir le contenu de sa valise: j'y vis 12 boîtes de chocolats, d'une livre chacune... et mon ami de dire: "tu comprends, ma femme, il lui faut sa boîte de chocolats tous les jours; et l'on a tellement de difficulté à se procurer la quantité nécessaire à Québec, que j'ai profité de mon séjour à Montréal pour en faire une râfle!"

Madame ne saurait donner son "five o'clock tea" sans avoir de chocolats à portée de la main de chacun de ses invitées. L'enfant grandit dans ce milieu, se gave de

chocolats et de bonbons à "cœur de jour", et quand vient l'heure de ses repas, les deux tiers de sa ration consisteront en pâtisseries de toutes sortes. Faut-il se surprendre après que 90% de la population scolaire de la Province souffre de carie dentaire, avec une moyenne de 5 dents cariées par enfant!

C'est à nous, dentistes, qu'incombe le devoir de faire l'éducation du public dans ce domaine. Toutes les fois que vous vous trouverez en présence d'une personne, surtout d'un enfant, qui souffre de carie, ne vous contentez pas de faire le travail approprié dans chaque cas, mais en plus des conseils sur la bonne alimentation et l'hygiène dentaire, faites comprendre aux parents que les sucreries et les pâtisseries, à base de farine blanche, sont responsables, en grande partie, de cet état de choses. Faites-leur aussi les recommandations suivantes: 1—ne servir que du pain à grain entier, 2—le moins de pâtisseries possible au dessert, surtout celles préparées à base de farine blanche, 3—prohibition complète de toute friandise sucrée entre les repas, 4—servir des fruits, ou tout autre aliment à l'état naturel, à l'heure de la collation.

D'aucuns prétendront peut-être qu'il est inutile d'essayer de changer cette coutume qui est pour ainsi dire entrée dans les moeurs de notre population. Je répondrai qu'une grande partie du succès en Hygiène Dentaire en dépend. La cause n'en vaut-elle pas la peine?

Coupe transverse des centrales du pont. C=Noyau de l'incisive centrale droite. F.C.=Faux noyau de l'incisive gauche Pointilli opacifiant.

Revue des Revues

par PAUL GEOFFRION

LE TRAITEMENT DENTAIRE ET SA PARENTE AVEC LA DEMENCE ET LES TROUBLES NERVEUX—J. P. Court J. P. Courtney et J.-V. Callaghan—The British Dental Journal—

C'est relativement depuis un petit nombre d'années que les psychiatres se rendent compte de la répercussion des malaises psychiques sur les troubles nerveux.

Dans l'article résumé ci-dessous, les docteurs Courtney et Callaghan font état de l'opinion de plusieurs médecins aliénistes très connus, qui pensent qu'une septicité dentaire des parents est fréquemment à l'origine d'une prédisposition psychopathologique de leurs descendants.

En outre, il se réfèrent souvent à une étude de Cotton, qui considère l'infection ou la septicité dentaire comme une cause très répandue de troubles psychiques.

Les auteurs attirent particulièrement notre attention sur le fait que bon nombre d'individus, par la voie alimentaire, absorbent des millions et des millions de streptocoques, résultant d'une septicité buccale, ce qui produit une auto-intoxication, et par la suite des symptômes mentaux y correspondant.

D'autre part, un grand nombre de médecins aliénistes pensent que la pyorrhée alvéolaire, par suite de la mauvaise odeur qu'elle fait naître dans la bouche est à l'origine de certaine démence; nourriture empoisonnée; de même une carie dentaire, mettant à nu un nerf, est susceptible de provoquer une autre démence: persécution par l'électricité, etc.

La pyorrhée alvéolaire entraîne fréquemment toute une suite de malaises: une légère anémie, des troubles gastriques, souvent accompagnés de neurasthénie, des accès de gastrite aiguë durant 2-3 jours (que le malade d'ailleurs ne met pas en rapport avec sa septicité buccale), fatigue se produisant au moindre effort, apathie, dépression. Certains de ces mélancoliques, qui se rappellent l'année où ces troubles commencèrent à se manifester, présentent quelques-uns, si non tous, des troubles que

nous venons d'énumérer, et qui sont caractéristiques pour les malades dont le sang est graduellement vicié par l'apport des toxines de la pyorrhée alvéolaire.

Puis les docteurs Courtney et Callaghan énumèrent et analysent des cas qui illustrent leur thèse et prouvent combien l'état mental du patient s'améliore, et parfois redevient parfaitement normal, lorsque sa septicité buccale traitée, les foyers d'infection ont disparu.

ACCIDENTS D'ERUPTION DE LA DENT DE SAGESSE INFÉRIEURE, LEURS COMPLICATIONS ET LEUR TRAITEMENT—A. N. Weissblatt—

D'après Katz, les accidents d'éruption de la dent de sagesse inférieure sont en rapport avec la fonction de l'appareil masticatoire qui exerce une influence sur la courbure du maxillaire inférieur et son accroissement dans la région de l'angle à l'âge de 17 et 20 ans. Lorsque le maxillaire inférieur subit un développement incomplet, la 3e molaire reste en partie ou totalement dans la branche montante. Par courbure de la région de l'angle, la couronne de la dent de sagesse se trouve attirée vers la partie cervicale de la dent de 12 ans, étendant la racine vers la branche montante. L'auteur passe aussi en revue les autres théories, trop connues d'ailleurs pour être citées.

Dans les 417 cas observés et traités, ayant à l'origine un accident d'éruption de dent de sagesse inférieure, Weissblatt trouva :

284 avec "Péricoronarite" (des accidents muqueux autour de la dent en éruption) ; 48 cas avec des "phlegmons pérимандibulaires" ; 38 cas, avec de la "stomatite ulcéreuse" ; 17 cas avec de l'ostéomyélite du maxillaire inférieur ; 14 cas avec de l'"angine dentaire" ; 8 cas avec des abcès dans la région de la dent de 6 ans ou de la 2e prémolaire ; 3 cas avec de l'angine de Ludwig ; 2 cas avec de la pulpite de la dent de 12 ans ; 1 cas avec abcès périamygdalien ; 1 cas avec névralgie du trijumeau ; 1 cas avec kyste périradiculaire (?)

Dans le traitement, l'auteur distingue les cas d'après les considérations suivantes :
1o L'accident se produit pour la première fois ou la complication est récidivante ;

2o La gravité du processus inflammatoire ; 3o La rétention de la dent est-elle complète ou partielle et comment est située la dent même.

Dans les cas où l'accident survient pour la première fois, le traitement conservateur doit être dirigé contre le capuchon muqueux, dans les cas récidivants l'extraction est indiquée.

CONTRIBUTION A L'ETUDE DES COMPLICATIONS SINUSIENNES DE L'EXTRACTION DENTAIRE—L. Vigier—

L'auteur ne s'occupe que des accidents sinusiens consécutifs à l'extraction des dents, c'est-à-dire l'ouverture du sinus et le refoulement de racines dans cette cavité. Lorsque le sinus est ouvert au cours d'une extraction, il recommande très judicieusement de s'abstenir de toute intervention si le sinus n'est pas infecté.

Pour le refoulement d'une racine dans le sinus, il fait observer que cet accident est dû à une disposition anatomique spéciale et n'est que très rarement le fait d'une faute opératoire ; on pensera à la possibilité d'un accident semblable, quand une racine de molaire surtout est enfoncée très profondément dans son alvéole, et Vigier conseille dans ce cas d'abandonner la voie alvéolaire et de pratiquer l'alvéolotomie vestibulaire.

Quand une racine a été refoulée dans le sinus, il est impossible, d'une façon générale, de l'enlever par l'ouverture alvéolaire, il faut pratiquer une opération analogue à celle de Caldwell-Luc ; mais au lieu de pratiquer l'ouverture de l'antre d'Higmont par la fosse canine, comme dans cette méthode, l'auteur recommande de préférence la technique de son maître Thibault, dans la région apexienne de la racine mésiale de la première molaire, juste en avant du malaire. Cette voie, dit-il, est plus commode pour la recherche de la racine, elle permet de voir le sinus d'enfilade, est plus facile à éclairer et, de ce fait, les recherches sont facilitées.

SILICATES DENTAIRE—Clyde A. Nelson—The Journal of Canadian Dental Association. Dans la préparation d'un silicate, le malaxage doit se faire aussi rapide-

ment que possible. Plus le temps de malaxage est long, plus les liens qui unissent les particules du silicate se désagrègent. En général le temps de spatulation ne doit jamais dépasser une minute. La température de la plaquette de verre ne doit pas dépasser 70°F. et la substance malaxée doit être homogène.

L'HUMIDITE EST TOUJOURS LE CAUSE D'UN MAUVAIS AMALGAME—
G. C. P.—Journal of American College of Dentists. Après des recherches qui ont duré plus de deux ans, on vient de découvrir qu'un amalgame contaminé par la transpiration des mains ou l'humidité du mortier, subit une expansion considérable une fois qu'il a été pressé dans la cavité. Au début on avait pensé que l'agent principal de cette expansion était dû au sel ordinaire contenu dans la transpiration; mais Schoonover et ses associés du National Bureau of Standards ont démontré que la transpiration seule, et non le sel qui y est contenu est la cause de l'expansion des amalgames après l'insertion. Voilà pourquoi ils recommandent 10—de ne jamais malaxer l'amalgame dans un mortier froid ou humide. 20—De ne jamais exprimer le mercure dans la paume de la main, mais de se servir d'une serviette. 30—De ne jamais insérer un amalgame dans une cavité humide.

STIGMATES DENTAIRES DU L'HEREDO-SYPHILIS—A. Pont et P. Beyssac
—La Province Dentaire.

10—L'hérédo-syphilis peut provoquer sur les dents des blastophtories. Celles-ci peuvent se transformer en véritables mutations qui se transmettront alors selon les lois du mendellisme.

20—Les prototypes des blastophtories hérédo-syphilitiques sont les érosions et, en particulier la dents d'Hutchinson et la molaire en bourse. Mais, même pour ces deux variétés, on ne peut affirmer d'une façon absolument sûre l'étiologie hérédo-syphilitique **QUE SI ELLES S'ACCOMPAGNENT D'UN OU PLUSIEURS AUTRES SIGNES DE LA TRIADE HUTCHINSONNIENNE.**

30—Les érosions banales (punctiformes, en sillon, en nappe, ne s'accompagnant pas d'altération de la forme de la dent, sont dues six fois sur dix à des causes non spécifiques.

40—Dans les mutations, on peut ranger la microdontie et l'agénésie. Dans ces cas, qui sont des mutations, il faut pour retrouver l'atteinte initiale due tréponème, remonter parfois à plusieurs générations. Il est à remarquer que ces lésions peuvent, elles aussi, **ETRE ENGENDREES PAR D'AUTRES CAUSES QUE L'HEREDO-SYPHILIS,** cette dernière ayant toutefois un pourcentage étiologique plus élevé que celui de toutes les autres réunies.

50—Le tubercule de Carabelli est une anomalie et non une lésion d'ordre pathologique; il n'a donc aucune **VALEUR ETIOLOGIQUE.**

60—Le diastème inter-incisif, signe de **GAUCHER**, est le plus souvent la conséquence d'une cause acquise non spécifique, telle que, frein anormal, extractions, ou dents trop petites.

70—L'hérédo-syphilis peut toucher les follicules des dents temporaires et provoquer soit des érosions semblables à celles des dents permanentes, soit des polycaries. Ces lésions des dents temporaires correspondent à une affection datant des dix premiers mois de la grossesse.

RESULTATS OBTENUS PAR L'EMPLOI DE LA VITAMINE "C" DANS LA THERAPEUTIQUE DES GENGVITES MARGINALES — P. Demoulin — Revu Belge de Stomatologie—A côté du scorbut aux signes cliniques bien caractérisés, il existe un état d'avitaminose que l'on peut constater dans la classe laborieuse et chez les indigents, ayant pour cause une alimentation irrationnelle; cette carence se traduit par des lésions gingivales, à forme ulcéreuse et hémorragique. L'auteur en rapporte plusieurs observations. Après détartrage et traitement local, une médication à l'acide ascorbique sous forme de comprimés fut instituée à la dose de 30

centigrammes par jour pendant dix jours puis 10 centigrammes pendant trois semaines. La guérison fut obtenue dans un délai variant de cinq jours à un mois.

Il est recommandé d'éviter l'ingestion d'aspirine pendant le traitement, cette substance ayant un pouvoir destructeur de la vitamine "C".

Conseils Pratiques

Recueillis par PAUL GEOFFRION

10—REDUCTION DU NITRATE D'ARGENT.

Le meilleur produit pour la précipitation d'argent d'une solution de nitrate d'argent est la solution révélatrice employée en radiographie, fraîchement préparée . . . *Journal Dentaire Belge* . . .

20—STERILISATION DE LA DENTINE DANS LES DENTS A PULPE VIVANTE.

Essence de Menthe	62 parties
Essence de Citron	12 parties
Essence d'Eucalyptol	18 parties
Essence de Wintergreen	14 parties
Essence d'Anis	6 parties

Prendre un coticube de ce mélange et le diluer dans 100 centicubes d'alcool à 90°. Mettre un coton imbibé de cette solution dans la cavité où toute la dentine a été nettoyée et bien séchée. Bien saturer la dentine de cette solution et obturer ensuit (M. Petrie . . . *Journal of Can. Dent. Ass.*)

30—MELANGE DE BORAX. Vaseline pour souder.

Le borax mélangé à l'eau à souvent du mal à pénétrer entre les pièces que l'on veut souder. Si on fait une pâte de borax en poudre avec de la vaseline, celle-ci en fondant pénètre dans tous les interstices, emmenant avec elle le borax et la soudeuse . . . *Journal of Am. Dent. Ass.* . . .

40—ANTIFLUX.

Un excellent antiflux est la mine de crayon, partout où l'on ne veut pas que la soudure coule, marquer au crayon à mine de plomb.

In Memoriam

En février dernier est décédé le docteur J. Donatien Paquin chirurgien-dentiste, âgé de 45 ans.

Il fut admis à la pratique de sa profession en 1920. Après avoir pratiqué au Lac St-Jean et à Montréal, il s'établit définitivement aux Trois-Rivières.

Le 27 février 1944, est décédé subitement à son domicile, 4128 rue du Parc Lafontaine, le docteur Honoré Thibault.

Reçu chirurgien-dentiste en 1914, il s'engagea dans l'armée canadienne en 1916. Après l'armistice, avec le grade de capitaine.

En 1920, il fut nommé gouverneur et examinateur du Collège des chirurgiens-dentistes de la province de Québec.

Durant vingt ans, il fut rédacteur de "La Revue Dentaire Canadienne" et, durant dix ans, secrétaire de "La Société d'Odontologie de Montréal".

Le docteur Honoré Thibault laisse sa femme, née Jeanne Beauchemin et deux frères: le docteur J. P. Thibault, médecin et Raoul Thibault, optométriste.

Nos condoléances à la famille.



SKI JUMP IN PRINCE ALBERT NATIONAL PARK IN SASKATCHEWAN

We must, as Herbert Morrison, Minister of Home Security of Great Britain, has said recently:

"Seek security, but not count security as an end in itself. Security is like peace. If you make it an isolated object of policy you lose it. If people have security and no purpose, no sense of loyalty to something beyond, they will relapse into inertia. There are dangers in security alone. Do not impose security on people for their own sake. Do not whip them into achievement with the lash of fear and want. Education is a better taskmaster than unemployment, leadership than want, faith than fear. Security should not be a load on our shoulders, but a weight off our minds."



Photo by Wm. Notman & Son, Ltd.

A. REGINALD WINN, B.Sc., D.D.S.
Montreal, Quebec.

President of Montreal Dental Club

Graduated from McGill University with B.Sc. in Arts in 1923,
and in Dentistry in 1928.

Acrylics and Their Uses in Restorative Dentistry^{*}

by J. S. DOHAN, D.D.S., F.A.C.D., Montreal, Quebec

THE materials which are commonly called acrylics, are the most interesting which have been handed to the dental profession for fillings, crowns, pontics etc., in a great many years. In my opinion, we should all try to familiarize ourselves with the various materials and be prepared to use any new ones or new methods. We may be sure many will be developed during the next few years.

A recognized authority on porcelain, said in his opening address at the Centennial Meeting in Baltimore in 1940, that he wished to go on record as saying that in his opinion, when the next centennial meeting was held, no mention would be made of porcelain. You will recollect that previous to 1940, while a little had been written about acrylics to be used in operative dentistry, it was still in quite an experimental stage. Yet this gentleman was satisfied, as he stated to me in an informal talk afterwards, that if not the materials which we had at that time, some other similar materials would be developed which would completely replace porcelain in restorative dentistry. About that time, or possibly a little before the meeting down there, I wrote to our own Major Bourke in England and I told him that I be-

lieved the time was not far off when we would be using materials of this type to pack into teeth in much the same way as we now pack amalgam, the curing being completed in the mouth. I may say here that the difficulty at present is in the curing time. It cannot be sufficiently controlled. That is, one mix will cure almost immediately while one containing slightly different ingredients will take several hours to cure in the mouth. Eventually this will be regulated and we may have a filling material which will excel all others except gold.

I do not maintain that these materials are a panacea for all of our troubles in operative dentistry but I do feel that they have a definite place in our practice and whether or not one may be a bit sceptical about their qualities, we are going to be forced by our patients to use them in due course. We were compelled to use the synthetic porcelains although many of us feel they cannot be considered anything but a temporary type of filling material in many mouths, on account of solubility etc. But the public insisted on it and it was a material that could be used in a more or less sloppy way with the initial results apparently good.

The acrylics may also be used in a

^{*}Presented at Group Discussion before Montreal Dental Club, November, 1943.

more or less sloppy manner but the failures show up much more quickly than they do with synthetic porcelain because the fillings will fall out. Since 1940, millions of restorations have been made with these plastic materials and more and more are being put in every day. Naturally, with a new material in the hands of a great assortment of men with different qualifications for handling them, many failures are being met. Notwithstanding this fact, there have been thousands of restorations inserted by conscientious and skilled operators which do appear to be standing up in a manner which at least equals that of many other materials. There has been a number of constructive controversies over this subject by some investigators in the United States. I have recently had an opportunity of discussing these materials with several leading dentists from various parts of the United States and I found only one who was using them exclusively. The dentists who have been considered to be leaders in the porcelain field, maintain that in their hands they do get results which in their opinion are far more lasting with porcelain than with acrylics. The same men however, do use a limited amount of acrylics in gingival cavities and where it can be reinforced such as in pontics, in repairing facings and in facings for gold backed anterior teeth, in fact anywhere that it will not be subjected to the stress of mastication. A few years ago, more than one of these men practically gave up using porcelain in favour of acrylics. They have had so many failures that now they are taking out most of that work and replacing it with porcelain. There are no short cuts in using the acrylics. One has to have good preparations and the material has to be handled according to directions. Otherwise, sooner or later, failure will be the result. However, one does not need to make out of it such a complicated job as some clinicians try to impress on us. If they would devote more time

to the actual handling of the material and less in trying to sell something, I think we would all come away with more of a desire to try to put it into practice. One man really tried to make a subject out of this material. No doubt he is well paid for his experimental work but he complicates it too much for the average individual.

Now for a few do's and don't's. Do make good conscientious preparations. They can never be too good. Naturally, there will be cases where you will put on a crown over a badly broken down tooth, in which case you will explain to your patient that it can only be considered as a very temporary means of restoring the tooth. Due to the resiliency of the material, unless it has a good seat for an inlay or crown, it is sure to fail. It is absolutely essential to have a good shoulder for all jacket crowns. If the tooth is too badly broken down, a gold core with a shoulder should be cast and fitted to place and the acrylic crown made over it.

Do use sufficient bulk where there is stress of mastication, otherwise the material will fracture or spread. Undercut all inlays and crowns in order to give the cement more chance to grip as cement does not adhere to them as well as it does to a gold inlay.

Do tell your patients that most gums, honey in the comb and some other materials will adhere to the inlays or crowns. It has been suggested that soaking the restoration in vinegar over night will correct this. Do keep all surfaces highly polished as this does prevent things sticking, at least to some extent.

Do keep all restorations moist at all times after they are made, before insertion in the mouth. Otherwise, they will dry out, change colour and possibly warp.

Don't use this material in all types of cases or you will have plenty of grief.

Don't use these restorations where there is heavy mastication stress, unless the material is firmly reinforced with metal.

Don't short cut the technique which is recommended for the material which you are using.

Don't fail to reinforce all your bridges with proper bars etc. Otherwise, they will either break or loosen

on the bar. This is most important as I know from some personal experiences.

Last of all, if you are not now using this material, do familiarize yourself with it and use it in selected cases only.

The Use of Enameloid Acrylics in Operative Dentistry^{*}

by A. D. ANGUS, D.D.S., Montreal, Quebec

THE introduction of a new material, or process of technique, should be well tried out and thoroughly tested before it can be accepted or condemned.

Looking back to the early days of the jacket crown and porcelain inlays, I well recall that there were many failures. Jacket crowns were too liable to fracture because at that time the preparation of a stump with a shoulder was not known.

It was difficult to build up contour with high fusing porcelains used at that time without a pyrometer furnace. Today we have learned a better technique in the use of the copper band for the individual impression and the use of the proper die. Porcelain inlays have been improved by using a translucent cement which was not available in those days. Gold inlays have passed through a transition from the box to the slice preparation, which have been very helpful in the prevention of the recurrence of caries at the gingival margin.

We must remember, in the use of methyl methacrylate we have a material quite different in its physical characteristics from either porcelain or gold, and consequently methods must be used which are suitable to the new material.

My experience with acrylics in operative dentistry covers about three years,

and I have had an opportunity to see some failures and successes.

With inlays I feel that my failures were due to faulty preparation of cavities.

The class 5 have been very successful. They blend in with the shade of the tooth, stand up well and do not show any apparent erosion from brushing.

I have found few failures in jacket crowns on anterior teeth when sufficient bulk could be used, and in the shading no difficulty in producing a life-like reproduction of the lost tooth structure.

Most failures seem to come in the use of methyl methacrylate for pontics in the bicuspid and molar area on a fixed bridge. While being superior to the porcelain pontics in adaptation to required mesio-distal spacing and aesthetics, they gradually become loose, rotating on their gold reinforcement. This may happen when I bars and L shapes have been used.

With Acrylic pontics there is a tendency to impinge on the gingiva in the interproximal space due to the necessity for bulk of material. The porcelain pontic lends itself better for this purpose as they are joined at the contact points.

I feel that this new material when conservatively and wisely used can be a great help to our profession.

^{*}Condensed from a Presentation at Group Discussion before Montreal Dental Club, Nov. 1943.

The Acrylics in Plastic Surgery^{*}

by JOHN GERRIE, B.A., D.D.S., M.D., C.M., D.L.O.

Assistant Professor of Oral Surgery McGill University

WITH the present fire-power of modern armament, one wonders what the toll will be in face mutilations. It is reasonable to expect many a Canadian soldier to return in the next few years minus a fairly fundamental piece of face or mouth anatomy. New materials of rubber, metals and especially the vinylite resins are available for face reconstruction. Have we available in the many branches of our armed services and the D.P.N.H., the advisable facilities to exploit these materials to their maximum?

To operate or not to operate may become the question, not only of surgical, but of economic importance. A European surgeon recently wrote of the construction of an orbit in five operations. The orbit was a surgical masterpiece and reflected great credit on the surgeon's surgical ability. Yet it was a flabby, misshapen affair,—an aesthetic and economic monstrosity in five instalments at tremendous cost. A rubber or acrylic orbit might well have been made at one fifth the cost and five times the satisfaction.

These newer plastics, the polymerized resins, are very facile materials and have much to offer in the problems of face reconstruction. It seems that by the addition of certain fillers, they can be softened to a skin-like texture and by the addition of varied pigments realistic and basic skin colours may be produced. Without the fillers, they are the hard, durable materials,—your denture bases,—so well tolerated by the tender mucous membranes of mouth and nose. They make excellent palate obturators of the ball type as described by Fitzgibbon, of the hinge type, or of the combined surgico-prosthetic type described by Gillies and Fry,

originally made in vulcanite as far back as 1921. They are useful to prop out sunken noses, to fill out oro-antral gaps or build out deficient chins, or any place where a foreign material is used in contact with mucous membrane. However, as face features, the hard resins are cold, uncomfortable and lend themselves poorly to painting thereon any semblance to a skin-like appearance.

However, the softer acrylics have much to offer as face features, and work is already in progress toward a broad testing of these materials in the field of facial prosthesis. A manufacturer, has already, as a research effort produced one of these plastics which has the desirable, rubbery skin texture and is yet durable, keeping its shape and colour. It is hoped to make this, and similar materials available in several standard skin tints and its extensive clinical trial is being carefully sponsored.

These polymerized alcohols may well be the answer to a bottle-neck in the glass eye problem. The blowing and colouring of glass eyes was well monopolized and bound up in a cartel system during the interwar period emanating from Berlin. Our facilities and capacities of production are now taxed. Copeman, an energetic Montreal technician, has already produced very acceptable "eyes" made totally of acrylic resin. They are less fragile and more durable than their glass counterparts but present further difficulties of iris colouring. Further processes are under study to produce acrylic eyes carrying accurate colour incorporations.

Advances in this field are to be expected from the enthusiasm, ingenuity and resourcefulness of our American

^{*}Presented at Group Discussion before Montreal Dental Club, November, 1943.

colleagues working hand in hand with the technical facilities of the motion picture industry. The American armed forces, with an ear cocked to the rehabilitation importance of this type of work, has long since detailed Lieutenant Commander Gurdin, with his assistants, to a full time consideration of this problem. Their efforts have produced startling and gratifying results. The vinylite resins are already in use to produce feather-edge, translucent plastic features, readily cemented to the mutilated face by a simple procedure. This able officer has already dramatic-

ally shown the case of an American soldier, wounded in a Pacific engagement, fitted with ear and chin prostheses and adjacent life-like hair, and sent home on leave in a very acceptable state, while further restorative surgery was pending.

The excellent soft latex rubber prosthetic work of Bulbulian added a new chapter to the book of surgical prosthesis. Now the advent of war and new facile plastic developments are giving a welcome boost and stimulus to an age-old problem,—the restoration of lost features.

Accuracy of the Moulded Acrylic Denture*

by I. K. LOWRY, B.A., D.D.S., Montreal, Quebec

WE HAVE listened with much interest to the previous papers dealing with the use of methyl methacrylic resin, for inlays, jacket crowns and for fixed bridges. There appears to be some difference of opinion, as to how satisfactory this material is, in comparison with metal or porcelain.

In prosthetic dentistry, however, the field where this material was first used six or seven years ago, public demand for the aesthetic and sanitary qualities of this synthetic resin, has made it the popular choice in many practices.

For over one hundred years vulcanite has been the dependable base material for dentures and still is used as a standard of comparison, where the matter of fit is concerned, in new products.

It is with this matter of accuracy of the moulded denture, that I wish to deal briefly in the short time allotted to me.

To this end, let us look into the be-

haviour of acrylic resin during its hardening or polymerization, in a dental flask.

First of all we must remember that nearly all substances expand when heated and contract again to their original volume when cooled. When however, some chemical action takes place, as a result of the application of heat, shrinkage also may occur and the total of this shrinkage and contraction is frequently considerably greater than the amount of the original expansion; this being so, how can one expect to have a completely filled flask after processing? The mould was full when we closed the flask, now after curing, when we open it, due to normal expansion, shrinkage and contraction, there is a deficiency and we have not the accurate fit we had the right to expect from our good impression. Research workers on this material inform us, that the amount of this decrease in volume may be as much as six per cent (6%): that

*Presented at Group Discussion before Montreal Dental Club, November, 1943.

the linear contraction is about 0.5%. Here then is the answer to why patients acquire sore tuberosities under new upper dentures; why teeth crack (posteriors); why the postdam area of the new denture is not firmly adapted to the tissue, unless our cast was heavily scraped or "beaded", to compensate.

Secondly, we must remember that chemical action frequently results in the production of heat; (exothermic heat or heat of reaction). This is true during the polymerization of acrylic resin. The heat of the water, in which the flask rests, initiates the chemical action, but once the process has begun, the water should extract heat from the flask rather than add more heat to it. If the volume of water is sufficiently great and the speed of the chemical action (polymerization) is not too fast, the temperature in the interior of the flask can be maintained at a safe level; that is, below the boiling point of any of the constituents of the resin. Monomer liquid boils at 213 degrees F. so if this heat is exceeded, bubbles or porosity may be expected in thick places in the denture.

Since the above mentioned errors occur, our problem is how to manipulate the material so as to reduce these faults below the danger level. After all, a denture which does not fit is more of a liability than an asset, to both patient and dentist.

Investigators have proven and experience confirmed that there is less volume change and little danger of porosity if the low temperature cure is followed. Therefore, new dentures as well as repairs should be heated only to 160 degrees F., by a thermometer, for from 2½ to 3 hours. Still better results are obtained, if in addition, a Pryor flask is used; or as an alternative, pack the flask to about 7% overfull, make suitable provision for escape of excess and close flask grad-

ually at five minute intervals, for 20 minutes, by which time the flask is completely closed. This way one can eliminate the error incident to the original expansion and also avoid part of the error due to shrinkage.

Further it has been proven that acrylic dentures absorb a small amount of water, and in doing so, expand about 0.2%, thereby cancelling a portion of error due to shrinkage and contraction.

According to our present knowledge, on this comparatively new resin, the best results in processing dentures will be obtained if the following rules are observed:

1. The "waxed up" trial denture should be no thicker or heavier than is necessary for strength and appearance. Avoid useless bulk.
2. Cure new dentures and repairs at 160 degrees F. for from 2½ to 3 hours, by a thermometer. Allow to cool on bench, where time permits.
3. Flask should be overfilled, or some special equipment used to compensate for unavoidable expansion, shrinkage and contraction.
4. All acrylic dentures, new or old, out of the mouth, should be kept in cold water.
5. Tinfoil should be used on both halves of the flask. It is a far better protector of the colour of the resin than any of the easier to use substitutes. "Pyorrhea" is not so likely to develop with the passage of time.

This new plastic material appears to have come to stay. It is hoped however, that either new developments in this or in other resins or in combinations of them, will one day give us a denture base material which has no dimensional deficiencies in moulding.

"The most expensive instrument in a dental office is a dull explorer."

The Use of Acrylics in Dentistry*

by W. C. BUSHELL, D.D.S., Montreal, Quebec

LET ME quote a few statements made by the sponsors of acrylics in their enthusiasm. "M.M.R. is the outcome of several dentists' inspired search for a material which would do away with the unaesthetic qualities of gold and silver and the fragility of porcelain. . ."

"There is no doubt that this material will ably withstand the test of time. . ."

"The wisdom of the employment of acrylics to replace the inferior materials we have used heretofore will be little questioned. We may use it with the firm conviction that it is nearest to our standards of a perfect tooth tissue substitute now available and can be used with full pride and confidence."

Here are a few details of cavity preparation that we are advised by the sponsors of M.M.R. to follow when we are using this material. We are told not to bevel margins. In class V or gingival cavities immune from the forces of mastication this is acceptable but on the occlusal surfaces of bicusps and molars it is incomprehensible. Why have we faithfully bevelled margins for years and years? Was it for fun? Of course not, we knew there were short enamel rods often unsupported and liable to break away under stress of mastication. We trim them off to obtain an edge that will stand up. I suppose the enamel edges just don't break when you use acrylics.

Slicing opened up a new era in the field of gold inlays. Many men realized that wax patterns made in the mouth left much to be desired. Slicing permitted quick, accurate impression taking and the foundation of the indirect inlay system was laid. With this new material we are told that slicing

is undesirable and wax patterns are to be made in the mouth.

Gingival margin trimmers were invented to facilitate the bevelling of the gingival margins. At this most important point we are not concerned about the enamel being chipped from mastication. We do know that a trim or bevel at the edge of any wall makes a seal better by far than when the two edges are merely butted together. The system of bevelling for protection and to make a seal is so universally accepted it needs no elaboration.

I could go on pointing out weaknesses but I do not want to give the impression that I have no use whatever for this material. In its place it is excellent and good results can be obtained in class four and class five cavities. (I refer to broken incisal edges and gingival cavities).

In selected cases jacket crowns can be made with more assurance in M.M.R. than in fused porcelain. When we require individuality of form and staining baked porcelain still stands supreme. M.M.R. has its place in fixed bridgework. It is useful as a veneer over gold crowns and other metal frameworks. A porcelain tooth or facing that continually breaks can often be replaced most satisfactorily with this new material but M.M.R. has definite limitations and for inlays in the posterior part of the mouth it does not compare with gold.

In closing allow me to briefly describe a practical case where acrylic resin appears to have been useful.

The patient, a man of 37, strong and vigorous, living an average city life and not addicted to excesses of any kind, developed an ulcer along the left side of his tongue; the ulcer was more than

*Presented at Group Discussion before Montreal Dental Club, November, 1943.

an inch in length. A series of ulcers were also present on the inside of his cheek on the same side. They were in the molar region at about occlusal level. The patient was not biting himself. There were huge amalgam fillings in the surrounding teeth. An attempt was made to round, smooth and polish the teeth and fillings; this had no effect whatever. Various local applications by a well-known dermatologist were useless. The patient asked the advice of some of the best medical men in the city. Large doses of vitamins were tried. The only thing that really helped was a daily injection of liver extract. For economy and convenience the treatment was given at home. After a considerable time it was stopped and the ulcers began to appear again.

Lest any of you think that this was an ordinary ulcer and of little consequence let me point out that the discomfort was so great that the patient willingly allowed his wife to give him

5cc in the hip with a big needle every night for months. If any of you men were facing just one such injection tonight you would probably go home reluctantly.

I have replaced most of the amalgam fillings with acrylic resins. The deep pain has gone. The tongue and cheek are healed. It was not practical to try gold inlays first, therefore I cannot say if they would have given similar results. I would have been happier in the use of gold for I have more faith in its permanence. However, this is an exceptional case.

In conclusion may I point out that we are dealing with a new material applied to new uses. The correct approach is not an effort to replace all other dental materials with it. By scientific study, clinical observation, a happy combination of the theoretical and practical aspects we can determine its rightful uses and limitations in dental practice.

Ontario Dental Association

The 77th Annual Convention of the Ontario Dental Association will be held at the Royal York Hotel, Toronto, Ontario, May 29, 30, 31, 1944. Dentists from the United States and from all parts of Canada will be welcome.—Edmund A. Grant, Secretary.

Eastern Ontario Dental Association

The 67th Annual Convention of the Eastern Ontario Dental Association will be held at the Chateau Laurier, Ottawa, Ontario, September 17, 18, 19, 1944. A cordial welcome is extended to all members of the profession.—C. Murray Purcell, Secretary.

Twentieth Anniversary Meeting of Montreal Dental Club

The Montreal Dental Club Annual Fall Clinic will be held in the Mount Royal Hotel, Montreal, Canada, October 25, 26 and 27.—M. L. Donigan, Director, 1414 Drummond St., Montreal.

Treatment of a Cleft Palate

—A Case Report

by CAPT. G. A. POLLOCK, C.D.C., and LIEUT. H. E. LEYLAND, C.D.C.

PATIENT: A young woman, member of the C.W.A.C., aged 19, congenital hare-lip and cleft palate. Cleft extended in the median line from the uvula, which was split in two, to the external surface of the face. An operation had been performed at about six months of age, at which time the lip had been sutured and an attempt made to close part of the cleft. The right ala of the nose was pulled down and a disfigurement of the lip has remained. The anterior third of the cleft is partly bridged across with the mucosa of the palate.

The mouth was found to be in a neglected condition with fair oral hygiene but little evidence of previous conservative dental treatment. It was necessary to insert 15 fillings and to extract the following:

4 3 C	1 2 4 5 7
8	5 8

("C" signifies deciduous cuspid), the other lower posteriors having been removed previously. The removal of the upper teeth was fraught with considerable hazard because the fear of possible maxillary fracture was ever present. However, the extractions were accomplished without any undue incident and normal healing followed.

When the tissues had healed and all the operative work had been completed the construction of the dentures was



FIG. 1

Patient on presentation, showing deformed lip and nose. Mandible at rest.



FIG. 2.

Showing Cleft Palate.



FIG. 3
Completed Maxillary Denture.

undertaken. Considerable difficulty was experienced in obtaining a one-piece impression of the maxillary ridges, remaining teeth and cleft. Therefore, it was decided to construct ordinary partial dentures for both maxilla and mandible without regard for the cleft. Considerable difficulty was encountered in securing an accurate bite but it was finally accomplished by having the patient bite into softened compound bite blocks one-eighth inch beyond the rest-bite position. The position of the anterior teeth was changed from linguo-version to an overlapping bite, reducing the "bull-dog" appearance.

When the patient had worn the partial dentures a few days and had adjusted herself to them satisfactorily, the maxillary denture was used as a tray upon which was built an impression of the cleft and pharyngeal regions. With a loop of wire for strength and modelling compound as a base; softened carding-wax was used to obtain the impressions and at the same time to produce a seal as far posteriorly as possible, so that there would be a division between the nasal



FIG. 4.
Completed Case.

passage and the oral cavity. To get as much detail as possible a final plaster-wash impression was taken.

This final impression was then boxed, poured in stone, waxed up and reprocessed with added acrylic. In a subsequent appointment the denture was adjusted and fitted in the mouth. Two appointments following insertion were required for final adjustments. To date the patient is wearing both dentures successfully.

The appearance of the patient is greatly improved. There is increased ability to masticate, swallow and breathe. Speech is noticeably improved with more rounded articulation and less nasal "twang". The psychological effect on the patient is an outstanding feature of this case. The successful result achieved is due in no small part to the co-operation and appreciation of the patient.

"If you see a person slipping, don't kick him—put sand on his path."

Schoolmaster Abroad

QUESTION:

WHAT IS THE BEST PROCEDURE WHEN A ROOT FRAGMENT IS LOST INTO THE MAXILLARY SINUS, AND WHAT STEPS SHOULD BE TAKEN WHEN THE SINUS IS ACCIDENTALLY OPENED IN THE EXTRACTION OF A TOOTH?

ANSWER:

The following answer to these problems is taken from a paper entitled "Oral Surgery in General Practice" by Reed O. Dingman, D.D.S., M.D., Associate Professor of Oral Surgery, School of Dentistry, University of Michigan, which paper appeared in the January, 1944 issue of the Illinois Dental Journal.

"The loss of roots into the maxillary sinus is a result, generally, of an attempt to remove roots by upward pressure with elevators. Great caution should be used to avoid this complication, as it sometimes leads to rather serious consequences. The loss of a root in the maxillary sinus does not indicate negligence, but the patient should be advised of the complication and the root should be removed without delay. Many of these roots perhaps cause little difficulty, but quite often severe suppurative maxillary sinusitis is seen due to foreign body reactions in the presence of a lost root."

"It is bad technique to attempt removal of the root through the tooth socket. This approach to the maxillary sinus does not give an adequate view of the sinus and it is almost always impossible to remove the root through this opening. This approach is also dangerous because of the possibility of creating a permanent oral maxillary fistula which is closed with difficulty only after arduous plastic

surgery. Following the loss of a root in the maxillary sinus it is desirable to have the patient treated by an otologist or an oral surgeon, if you do not feel qualified to remove it yourself. To the man experienced in minor oral surgical procedures the removal of a root is not a difficult operation. The sinus is approached through a semi-circular incision extending from the maxillary cuspid apex in a curved fashion almost to the gingival margin in the bicuspid region, and then upward over the molar area. The mucoperiosteum is elevated and the maxillary sinus is entered above the apices of the bicuspid teeth, using a bone drill, antrum bur or rongeur forceps. The opening is made much higher in the bone than the lowermost part of the incision in the soft tissues. This is done to assure complete coverage of the opening with a mucoperiosteal flap following removal of the root. After entering the maxillary sinus, the root fragments can be removed by use of cotton forceps or an antrum curette. A procedure that is quite useful is to flood the maxillary sinus with sterile saline solution and aspirate the fluid with a small suction tip. Often the root fragment will be found adhering to the end of the suction tip after the fluid has been aspirated. The flap is replaced in position and sutured without drainage."

"Occasionally it will be noted that one can see into the maxillary sinus after the uncomplicated removal of the tooth without loss of a root. The roots of some teeth extend into the maxillary sinus, being separated from the sinus only by the antrum membrane. If the antrum is accidentally opened, no effort should be made to irrigate the socket or the antrum. An attempt is made to get a blood clot to

fill the socket. In over 90 per cent of the cases there will be complete healing without difficulty, simply by obtaining a good blood clot and having it established in the tooth socket."

PROCEDURE FOR TREATMENT OF OPENING INTO THE SINUS

"When there is an opening and inadequate bleeding in the socket, a small gauze dressing is laid over the opening of the tooth socket. This is not packed in, but is laid carefully over the opening to keep out the saliva and food that might possibly get into the socket or maxillary sinus. The patient is instructed to bite lightly on gauze until bleeding has occurred and a clot has filled the tooth socket. If the opening is too large and shallow to permit organization of a clot an attempt should be made to close the opening by approximation of the buccal mucosa to the lingual soft tissues. Removal of some of the buccal bone may make accurate approximation of the soft tissue possible."

"Whenever the maxillary sinus has been opened the patient should be given instructions against blowing the nose or sucking blood out of the tooth socket. He should also be given a prescription for some nose drops. Ephedrine, 1 to 3 per cent, in saline is a good drug for shrinking the mucous membrane of the nose. Neosynephrine is also an excellent drug. This will keep the ostium maxillare open so that any blood accumulating in the maxillary sinus is maintained and the likelihood of infection will be reduced."

QUESTION:

CAN ANYTHING BE DONE TO AVOID SUBCUTANEOUS HAEMORRHAGE IN EXTRACTING TEETH?

ANSWER:

The following answer to these problems is taken from a paper entitled "Oral Surgery in General Practice" by Reed O. Dingman, D.D.S., M.D., Associate Professor of Oral Surgery, School of Dentistry, University of Michigan, which paper appeared in the January, 1944 issue of the Illinois Dental Journal.

"Ecchymosis or subcutaneous haemorrhage is often embarrassing to the surgeon and quite disconcerting to the patient. This is a common complication following multiple extraction of teeth and does not always mean mismanagement of the case. Many of these patients have a prolonged bleeding time and bleed easily into the soft tissues. Ecchymosis may occur following multiple extractions if the flaps have been sutured unusually tight. The underlying tissues continue to bleed and ooze and since the blood cannot escape into the mouth it sometimes escapes subcutaneously. Undoubtedly, some cases of ecchymosis are due to rough handling of the tissues. Ecchymosis is usually seen in older women, and particularly in those of fair complexion. Most of these patients will give a history of bruising easily when injuries occur in other parts of the body."

"If this complication has previously occurred in a patient and is anticipated, it is advisable to do small amounts of surgery at any one time and to apply pressure and ice bags immediately after the surgical procedure has been completed. In this way ecchymosis many times can be prevented."

"After ecchymosis has developed it is too late to do anything about it. The skin will go through all of the range of colours from blue to yellow and will usually return to normal in about two weeks."

Age is not a matter of years; it is a matter of health and point of view. If you are well and your vision is in the future, you are not growing old.—C. N. Johnson.

The Forum

• A FUNDAMENTAL ISSUE

by SIR NORMAN G. BENNETT, M.A., M.B.,
B.Ch. Cantab., M.R.C.S. Eng., L.R.C.P. Lond.,
L.D.S. Eng.

THE suggestion has been put forward several times lately that the status of the profession would be raised if prosthetic treatment were eliminated from the practice of dentists, and artificial dentures were made by others, to a prescription. Comparison is drawn with such things as spectacles, artificial limbs and trusses.

It is not made clear whether the taking of impressions and bites, and the fitting of the dentures, would still be done by the dentist, or whether this work would be wholly relegated to a person not professionally trained. If the former, the position would not be substantially different from what it is at present, except possibly as regards allocation of fees. If the latter, then undoubtedly an amendment of the Dentists Act would be necessary to make this permissible, and a lower grade of practitioners would be legally established. Such a course would be contrary to the spirit and intention of the Dentists Act, 1921, and to all that the profession has striven for in the past, and would undermine its present political status and lay up trouble for the future.

Argument by analogy is always dangerous, and the first duty of those who employ it is to show that the comparisons are closely similar. As regards spectacles, it is fairly plain that the resemblance is very slight, because all that the optician has to do with the patient is to see that the glasses are set the same distance apart as the two eyes and on the correct horizontal level. The comparison is

a little closer in the examples of artificial limbs and trusses, but not very much, and for the latter at any rate, in case of doubt, it is the surgeon's business to see that the truss fits. A somewhat closer analogy would be with splints. But who, other than the surgeon himself, is competent to apply the splint? In point of fact, the application of artificial dentures to the soft tissues of the mouth, never intended by nature to sustain the pressure of mastication, is more truly a surgical proceeding than many of the operations of conservative dentistry. For example, the insertion of a gold inlay or an amalgam or cement filling is, except for the problem of dealing with sensitive dentine, a purely mechanical process. I submit that a knowledge of the anatomy and physiology of the jaws is essential for anyone who sets out to restore, as nearly as possible, by artificial appliances the normal functions of the normal jaws, and that even more difficult problems await those who have to deal with the abnormal formations of the jaws too common at the present day without adequate knowledge of their pathology.

Moreover, it is said that we sell dentures, the implication being that we may sell our time, skill, knowledge, and experience without loss of prestige, but not our material. There is much to be said for this line of approach, but the two categories are not easily separated. For example, can it be said that the fee for a fixed bridge or a large gold inlay is assessed without any reference to the value of the material employed? Yet the product in each case is certainly the property of the patient and is therefore sold.

An interesting comparison may be

made with orthodontic appliances. When these are of the fixed type they must of necessity revert to the dentist, and are only therefore, as it were, on loan. In the case of removable appliances the situation is less definite. The ownership is perhaps in doubt, and had better remain so. As a matter of experience they often revert to the dentist.

But apart from these considerations, is there not some confusion between the actual character of prosthetic work in the mouth and at the bench, and the cost of materials, especially where this forms a substantial part of the transaction? It would be quite possible in a scheme of national dentistry so to contrive that a dentist should be properly paid for his skill and knowledge in prosthetic work apart from cost of materials. Much of the trouble is due to the fact, notorious for many years, that conservative work is inadequately remunerated in comparison with prosthetic work, and thereby its employment is discouraged; this also could be controlled. But these are matters of comprehensive policy.

It seems to be a pity to try to strain the surgical character of dental operations further than the facts warrant. Dentistry is partly surgical, consists largely of craftsmanship, and is certainly not without its artistic side. Hence follows the variety of interest in a specialty of limited scope. Of all our operations the extraction of teeth is the most truly surgical, but it does not particularly enhance our prestige. When it is performed by means of a chisel instead of forceps, with the removal of necessary or unnecessary amounts of bone, it is not technically any more surgical, even though it may then be more allied to methods of general surgery. The pianist or violinist or painter sometimes exhibits the second and third attributes—technique and art—to a pronounced degree, and certainly ranks high in public estimation.

It may, I think, be said that if a den-

tist is true to his calling, and is conscientious and efficient in all its phases whether surgical, scientific, technical or artistic, he need not concern himself unduly about status or strive to base it on any one part of practice.

—*Br. D. Jour.* Feb. 4, 1944.

• THE DENTAL TREATMENT OF THE ADOLESCENT

by GEORGE FRIEND, L.D.S. Brist.

Condensed from British D. Jour. Jan. 15, 1943.

CONSERVATIVE dentistry in the adolescent presents many special difficulties. These are mainly due to the large size of the dental pulp and the extreme sensitiveness of the dentine.

At no time is it so important to remember that conservative dentistry is the treatment of a disease in a live tissue. Every tooth with caries extending into dentine has some pulp injury. Instead of looking at cavity preparation as a mechanical problem the prime interest should be the treatment of the dental pulp. The mechanical replacement of lost tissue is secondary to the prevention of further loss and the preservation of a live healthy tooth. A slab of cement over a healthy pulp is better than a perfect gold inlay over a diseased one.

The dental pulp of the adolescent is very susceptible to injury. Slight trauma will produce a pulpitis. A small carious cavity will cause pain. A tiny cavity cut into sound dentine and filled with silicate cement can cause the death of a pulp.

The dentine of the average adolescent is acutely sensitive to any stimulus, and this makes pain a major difficulty in cavity preparation.

The intra-alveolar method of injecting local anaesthetic is the most useful technique for producing anaesthesia of the dental pulp in the adolescent. Any syringe may be adapted for this purpose but a nozzle must be used which allows only 5 mm. (approximately) of needle to protrude from

the hub. A tip of Ash's soft dark rubber can be vulcanized to any long hub to allow the right length of needle to protrude. This rubber tip can be pressed against the gum without causing injury. A No. 3 Beutelrock reamer is suitable for piercing the alveolus and may be used in conjunction with Cottrell's No. 27 needle. 1 cc. of anaesthetic is drawn into the syringe and a few drops injected into the dental papilla distal to the tooth to be anaesthetized. The reamer is then passed through the hard outer layer of alveolus at the middle of the base of the interdental triangle at a level just below the necks of the neighbouring teeth. Keeping an eye fixed on the reamer mark, the syringe needle is passed down the hole pierced by the reamer until the hub presses on the gum surface. The hub must form a seal at the gum surface or the solution will leak around its edges instead of being injected into the cancellous tissue. The remainder of the solution is then slowly injected. It usually needs only the lightest pressure and its effect is marked. The anaesthesia lasts about ten minutes and usually includes teeth mesial and distal to the site of injection. The tooth distal to the injection is often only anaesthetized for two or three minutes and should be treated first when both teeth are involved. The time of anaesthesia may be lengthened by increasing the dose or repeating it.

A healthy full interdental papilla is necessary and is usually present in the adolescent. The comparison between the intra-alveolar method and a nerve block in removing a lower first molar is striking. In one case the whole operation can be finished in two minutes without pain and with only 1 c.c. of anaesthetic injected.

Any type of local anaesthetic will produce anaesthesia by the intra-alveolar route, but solutions containing cocaine or adrenalin should not be used. The absorption of the solution

is so rapid that a small amount of adrenalin produces marked general symptoms. Cobefrin or one of the other adrenalin substitutes is effective and produces no marked general effects. The pain of the initial needle prick may be avoided in the incisor area by the use of ethyl chloride. Iodine solutions are not suitable for mouth use. Acriflavine—1 part in 1,000 parts of normal saline—is an excellent antiseptic which can be freely swabbed over all areas where a local anaesthetic is to be given.

In certain cases nitrous oxide analgesia is the most suitable way of preventing pain during cavity preparation.

A quick-acting barbiturate such as Seconal is very effective as a premedication for adolescents and can be given before any type of dental operation with the usual precautions for this type of drug.

CAVITY PREPARATION

Cavity preparation for any type of filling in the adolescent needs bold cutting. While some caries-affected dentine may be left with safety over the pulpal wall of a cavity, if further caries is to be prevented all the cavity margins must be completely free from carious dentine, even if considerable loss of tooth tissue is necessary. This is best achieved by the use of diamond instruments. Large sizes of these instruments may be used which rapidly extend enamel margins without vibration. For instance a large rosehead diamond (such as the pre-war D & Z No. 91, equivalent in size to a No. 8 rosehead bur) will quickly penetrate the enamel in an interstitial cavity where caries has not reached the occlusal surface, leaving the caries well exposed and a hard sound dentine enamel margin. The remainder of the cavity preparation is then easily done.

Rapid cutting of tooth tissue can be done under a jet of water.

The combination of local anaesthesia by the intra-alveolar route, diamond instruments and water jet has revolutionized cavity preparation. These

three together allow cavities to be rapidly prepared and extended to any area necessary without trauma or pain.

Excessive drying of cavities before inserting a filling is undesirable and unnecessary. The best condition of the dentine to receive a filling is that produced by drying with two or three pledgets of amadou. The best covering for live dentine yet discovered is a thick mixture of zinc oxide and eugenol. The mixture needs drying in a dental napkin to a hard tacky consistency before use.

The small cavity which has been extended freely into sound dentine needs the most careful treatment. Where it is mechanically impossible to place a lining freshly cut dentine should be soaked with pure phenol.

One particular condition—the impaction of the lower third molar—should always be kept in mind. It is present in a high proportion of mouths where all teeth have been saved and it gives rise in many cases to a serious trouble. It is one of the commonest causes of a chronic gingivitis in the adolescent and the removal of a partially erupted lower third molar will often improve the gingival condition in a dramatic way.

The removal of the lower second molar will allow the third molar to erupt in a satisfactory position or in a position where its removal is not difficult. The removal of the lower first molar at about 12 years of age will nearly always allow the third molar to erupt satisfactorily. The removal of either lower premolar in early adolescence will usually allow the eruption of the lower third molar into a position where its removal is not a serious problem.

The removal of the four first molars will often make possible the treatment of caries in a patient who is exceptionally liable to the disease and this course should be taken boldly where treat-

ment of caries is the dominant factor.

The elimination of sepsis from diseased mouths is not an adequate ideal. The nation's teeth can be saved, but the first step in this direction can only be taken by concentrating the profession's efforts on the teeth of the adolescent.

• SHOULD WE USE LOCAL ANAESTHESIA FOR CAVITY PREPARATION?

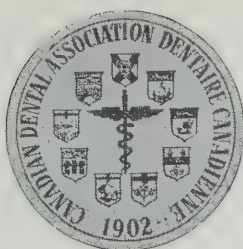
by CAPT. DAVID H. MacDONALD, Canadian Dental Corp, Canadian Army Overseas
Conclusion of paper in Modern Dentistry, Oct. 1943.

MOST of the advances in Dentistry in recent years have been in the materials provided. The invention of the casting process and control of volume changes in gold gave us the cast inlay and crown and a host of mechanical restorations to go with it. Acrylics and porcelain have put us in an artistic realm by greatly improving dental aesthetics. But it is the extensive use of local anaesthesia that will give us the key to the greatest service we can give to our patients. It is up to us to eliminate the elements that have been holding Dentistry back for centuries—the inherent phobia of pain.

During the present conflict we are struggling to eliminate forces of evil, to make the world a better place to live in. We, in Dentistry also have a duty to wipe out the factors that are holding us back and to emerge with a greater confidence of the public in our work.

Thousands of enlisted men and women are having their first taste of dentistry. These people will all be potential patients in post-war years. Let us prove to them and to the millions of others that have put up with painful dental service that we have advanced along with the rest of science and the world, and that we can and will eliminate all unnecessary pain in operative dentistry.

There is no counterfeiting genius.—Vauvenargues.



Editor: M. H. GARVIN, Winnipeg

Assistant Editor: T. R. MARSHALL, Toronto

Associate Editors:

PRINCE EDWARD ISLAND:

D. T. Wayne, Charlottetown

QUEBEC:

E. M. Laurin, Montreal

SASKATCHEWAN:

F. C. Harwood, Moose Jaw

NOVA SCOTIA:

S. G. Ritchie, Halifax

ONTARIO:

T. R. Marshall, Toronto

ALBERTA:

John Clay, Calgary

NEW BRUNSWICK:

W. C. Carruthers, Saint John

MANITOBA:

J. F. Morrison, Winnipeg

BRITISH COLUMBIA:

H. M. Cline, Vancouver

Health Insurance Problems

Isaac Bowman, President of the American Association for the Advancement of Science, in the Association Bulletin of May, 1943, speaks as follows: "This may not be the most dangerous period of civilization in 2000 years but most of us think it is one of the most dangerous. It is certainly the most complex. Every parochial condition is temporarily overshadowed. Two billion people are swept along in a single flood. All sorts of questions are asked about the future. The uncritical prophets are sketching an apocalypse that has more Hollywood than sense in it, or promising the earth and the fulness thereof to everybody, without troubling to look at the arithmetic of it. The critical spirit is having a hard time. On every hand men speak of uncontrollable elements in terms of 'I think' when they should say 'I guess'." Too many of us dentists have stated "I guess", or have put off the hard business of thinking as did Scarlett O'Hara in that once popular novel "Gone With the Wind" when she would repeatedly say "I won't think of it now, I'll think of it tomorrow."

On the other hand, more and more of our dentists are becoming concerned about the future of dentistry. Questions are being asked. More publicity of the Canadian Dental Association program is being demanded, all of which is encouraging. If Compulsory Health Insurance is introduced, the C. D. A. favours a plan to include all children up to the attainment of the age of possibly sixteen and that the age limit should be advanced year by year as is deemed advisable, according to the availability of personnel, financial support and general considerations, until everyone is included. The Association believes that the practice of dentistry should be carried on in the

private office of the dentist, on a fee basis, except under circumstances not favourable to private practice. Organized dentistry is supporting legislation towards the control of dental disease in Canada rather than the setting up of large scale systems of treatment. This is the program and if anyone has any questions to ask, now is the time to ask them. If anyone has any suggestions to make, now is the time to make them for if ever we needed concerted action, it is now.

One of the first questions being asked is if we are going to stress prevention, should not expectant and nursing mothers be included in the scheme as has been suggested by the British Dental Association in its proposed plan for the dental health of the people of Britain? This would seem a logical conclusion even if the age limit for children's service has to be lowered. The C.D.A. plan eventually will include everyone, millionaire and indigent alike. Some are asking whether or not the low income groups only should be participants in the scheme? This writer believes in the principle that all should be included regardless of income, the reasons for which having been set forth in the March editorial.

A more immediate problem concerns the care of the indigent and the very low income groups. Men are asking of what use is it to hospitalize a man in this group, prescribe vitamins, x-ray treatment, and other expensive and time-consuming procedures and leave a mouth full of abscessed teeth uncared for because no provision is made for this type of service. If this patient's teeth were extracted in certain cases, no other treatment would be required. This being the case, should not some minimum dental service be provided for this class of people under any system of compulsory health insurance even though the age limit of children receiving government service be reduced. Certain influential provincial government officials have said that this must be done.

Some are asking who is to decide whether a patient is to have a gold inlay or an amalgam filling; a fixed bridge or a partial denture, etc.? This question was also answered in March. It would seem the part of wisdom that nearly all gold inlays, fixed bridges, jacket crowns and all so-called luxury dentistry should be taken care of in the private dental office, and not under the state set-up. In any case, the determination of the need for a particular type of service should be the prerogative of the dentist and not of the patient.

The question which is raising the greatest controversy is the one involving the practice of all dentistry in the private dental office with a fee schedule, except under circumstances not favourable to private practice such as in outlying districts which can be served best by some form of mobile clinic. Let us agree that the fee schedule will be adequate for the average practitioner. What is to be done about the energetic and efficient dentist who with all the assistance which can be made available, works long hours and renders accounts to the government which will make government officials conclude

that the fee schedule is too high? Are we going to insist that this dentist, figuratively speaking, lays just so many bricks a day? At the present time a dentist must insert reasonably good work or the patient will complain and it will have to be replaced without further fee. Under this proposed government plan, will the work be of such a high standard? will the patient complain if certain work has to be replaced when he is not paying for the same? Recently in a certain Canadian city, the Council voted a sum of money to care for the teeth of school children in private offices with a fee schedule. It was found that certain men were inserting numerous pit cavities and overlooking the larger, difficult cavities. How is this to be controlled? Is every patient to be inspected before and after treatment?

Furthermore, under our present system, certain fine practices are controlled in some measure by the fees charged. If all patients were free to choose their own dentist as no fees were involved, many of our best men would be placed in a very embarrassing position in having to turn away so many from their doors.

In the case of periodontal treatment, for instance, which is a most important part of this whole dental service in the case of adults, one has reason to doubt whether anyone has, to date, been able to set a reasonable fee schedule. This writer has never seen a fee schedule for this type of service which has been adequate in the slightest degree, in fact most such attempts have been ridiculous.

Furthermore, most governments like to budget their year's expenses. In the case of dentistry being rendered in private offices on a fee basis, the government can have little idea as to what bills will be presented during the year. These are just a few of the problems facing us as a profession in dealing with this problem.

The British Dental Association has concluded that those in the priority group, namely expectant and nursing mothers, children and adolescents up to eighteen years of age, should be treated in clinics by salaried personnel. The New Zealand government envisages public clinics staffed with salaried personnel, specializing in various branches of dentistry, all types of dental service being provided, together with the necessary technicians, trained assistants and clerical staff, an educational branch and also a research department. The Joint Committee on Social Security set up by the Australian parliament states that the medical and dental professions would have much to gain by the introduction of a fee for service system of payment but that the system is open to abuse both by patient and doctor, and against this no adequate means of protection had been suggested, and that the ultimate solution will probably be found in full-time salaried medical and dental service.

These three countries have had a much wider experience in social health services than has been the case in Canada and their conclusions cannot be passed over lightly. Let us admit that the fee for service method has stood

the test of time and that it seems the fairest way to pay for professional service rendered but let us also admit that no one, to date, has submitted a plan by which such a scheme can be efficiently handled. This being the case, it is indeed the responsibility of someone to work out such a plan at once if organized dentistry is going to insist on a fee for service basis of remuneration.

We are told that we are fighting for the four freedoms—freedom from want and freedom from fear being two of them. Freedom from want means, in part, freedom from want of necessary medical and dental service. Freedom from fear means, in part, freedom from the fear of sickness and loss of one's teeth. The enormous amount of preventable dental disease is one of the great social problems of our day. This problem must be attacked realistically, and not just theoretically. If this problem can be handled in private offices on a fee schedule, fine. If it cannot be done by this age-old method of private practice, it will be necessary to find some other way of doing it, for universal dental service is a social necessity and cannot be postponed indefinitely. The preserving of a healthy mouth and consequently the saving, in many cases, of life itself is so much more important than professional pride, or the saving of property, or the lowering of income taxes. Dentistry is a holy calling and demands the highest ideals of all its devotees.

There are countless vexatious questions connected with this whole matter which must be answered by us as individuals and by us as a group. The rewards may not come in terms of material wealth or in those things which many of us crave, yet we should push forward with that satisfaction which comes from knowing that we are doing our duty, and in the hope that our labours will develop something that the "world may not willingly let die."

M. H. G.

BOOK REVIEW

Fundamentals of Occlusion by Samuel Hemley, D.D.S., F.A.C.D., Head of the Department of Orthodontics, New York University, College of Dentistry. 377 pages with 504 illustrations and 286 figures. Published by W. B. Saunders Company, Philadelphia and London, 1944. Canadian Agents, McAinsh and Co. Ltd., Toronto, Ontario. Price \$7.50.

This book has been prepared as a text for undergraduate courses in orthodontics. Although intended primarily for students there is much of value for those engaged in any branch of dentistry. It is impossible to practice the profession of dentistry as it should

be practised without a thorough knowledge of normal occlusion and in this book the author has emphasized the necessity for a study of the fundamental biological factors which influence its development. The biochemical and physical factors involved in bone growth are stressed.

The aetiology of malocclusion is discussed in several chapters, covering prenatal factors, postnatal factors and local causes, the classification of malocclusions and a discussion of these classifications.

The author discusses the problem of root resorption during orthodontic treatment and points out that this can be controlled if the

tooth is permitted to rest, passively supported at frequent intervals; that during these intervals functional stimulation permits complete repair and that then the tooth may again be subjected to force.

Success in the practice of dentistry must be evaluated in terms of a proper functional relationship and as this should be the chief aim of all practitioners, this book offers many helpful suggestions.—M. H. G.

DENTAL CORPS NEWS

SUPPLEMENTARY LIST CANADIAN DENTAL CORPS OFFICERS AS OF MARCH 31, 1944

APPOINTMENTS	
Nil	
RETIREMENTS	
Rank, Name and Date	Civilian Address
Capt. J. R. L'Archeveque, 6-3-44	Montreal, Que.
Capt. J. A. Latour, 4-2-44	Montreal, Que.

Capt. K. E. McLaughlin, 18-2-44	Sydenham, Ont.
Capt. L. S. Young, 22-2-44	Winnipeg, Man.
Capt. H. MacCrostie, 1-3-44	Edmonton, Alta.
Lieut. L. H. Chapman, 23-2-44	Chilliwack, B.C.
Capt. E. M. Spurgeon, 14-2-44	Vancouver, B.C.
Capt. J. D. Calvert, 23-2-44	Victoria, B.C.

Depreciation on Equipment of Members in the Corps

In a letter dated April 4, 1944, the Deputy Minister (Taxation), Department of National Revenue, Ottawa, in reply to a letter forwarded to the Department by our C.D.A. Secretary, Dr. Gullett, has ruled that claims for depreciation on dental equipment owned by members of the dental profession now

serving in the Canadian Dental Corps, cannot be allowed as a deduction against army pay and allowances, since the depreciation is not a necessary expense to earn the income.

It is further stated, however, that where the dental equipment is rented, and rental income is reported, depreciation will be allowed on the rented equipment at the usual rates but only to the extent of the rental income reported.

CANADIAN DENTAL ASSOCIATION NEWS

(FROM THE OFFICE OF THE SECRETARY)

FINANCIAL STATEMENT, YEAR ENDED DECEMBER 31, 1943

BALANCE SHEET

December 31st, 1943

ASSETS		LIABILITIES	
Current Assets:		Surplus	\$6,607.67
Cash on hand and in bank	\$5,926.24		
Fixed Assets:			
Office Furniture and Fixtures	\$757.15		
Less Reserve for Depreciation	75.72 681.43		
	\$6,607.67		\$6,607.67

REVENUE AND EXPENDITURE ACCOUNT

Year ended December 31st, 1943

REVENUE		EXPENDITURES	
Grants from Provincial Boards:		Grant to The Journal	\$ 3,900.00
British Columbia	\$1,180.00	Secretary's Honorarium	3,000.00
Alberta	676.00	Clerical Assistance	1,216.44
Saskatchewan	600.00	Committee Expenses	652.67
Manitoba	2,056.00	Officers' Expenses	1,681.88
Ontario	7,404.00	Delegates' Expenses	2,483.78
Quebec	1,768.00	Stationery and Office Expense	1,022.89
New Brunswick	320.00	Telephone	76.51
Nova Scotia	1,084.00	Postage	225.68
Pr. Edward Island	92.00	Depreciation, Office Furniture and Fixtures	75.72
	\$15,180.00		\$14,335.57
Rebates on Committee Expenses	211.46		
Sale of Dinner Tickets	120.00		
Sundry Revenues	24.00		
	\$15,535.46	Net Surplus for year	\$ 1,199.89

The Journal of The Canadian Dental Association

SURPLUS ACCOUNT

Year ended December 31st, 1943

Surplus, December 31st, 1942.....	\$5,397.78
Net Surplus for year, brought down.....	1,199.89
Adjustment re prior period.....	10.00
Surplus, December 31st, 1943.....	\$6,607.67

AUDITORS' CERTIFICATE

We have audited the accounts of the Canadian Dental Association for the year ended December 31st, 1943 and report that, in our opinion, the above Balance Sheet is properly drawn up so as to exhibit a true and correct view of the financial position of the Association as at December 31st, 1943, according to the best of our information and the explanations given us, and as shown by the books.

THORNE, MULHOLLAND, HOWSON & MCPHERSON
Chartered Accountants

Dental Personnel in Canada February 1944

The accompanying chart records figures for Canadian dental personnel, as of February 1944. Complete accuracy of figures for any definite date is impossible owing to constant change, but it is believed the figures given represent the true situation.

Deductions from these data that may be made are without end. Comparison with the figures given in the Survey report of one year ago (published in the Journal, June 1943, page 281) should prove instructive and interesting. The yearly recording of this information furnishes a definite record of value which should be useful to all concerned with the future of the dental profession.

The ratio of civilian dentists to the population in the provinces varies from one to 2617 in Ontario to one to 7444 in New Brunswick. The percentage of dental personnel as compared with pre-war year 1938 gives a more accurate assessment of the condition for the reason that it is based upon the demand for dental services extant in peacetime. In the national Survey report it was stated that the danger line was reached when this percentage reach 70% in any province. At that time three provinces had reached this percentage and now a fourth is added. Overall the percentage of civilian dental personnel has dropped one per cent during the year.

The number of the profession in military service has increased from 1010 to 1162. During the same period there have been 52 retirements from military services. In the Survey of one year ago it was estimated that there would be available for the Corps during

1943 some 208 men. Actually there were 204, (which may be arrived at by taking the difference between 1162 and 1010 plus the 52 retirements returned to civilian practice).

The wastage of those in civilian practice through death and retirement for 1943 was estimated at 75 in Survey of last year; this actually was 83. While this figure is only 8 over the estimate, it has a rather definite interpretation. The estimate of 75 was made upon an actuarial basis with some added leeway because of present extraordinary circumstances. Undoubtedly the wastage in the profession is higher owing to the strenuousness of dental practice today.

The increase in the number of licensed dentists in Canada is of particular interest. Comparative figures are as follows:

1938—	4174
1943—	4294
1944—	4405

The application of the present number of qualified dentists (4405) to the civilian population under normal conditions indicates one dentist to 2612. Previous to the present war only two provinces, namely Ontario (1962) and British Columbia (2102) had a ratio below this figure. The overall pre-war ratio for the Dominion was one dentist to 2685.

In the event that the war continues, the age factor will become increasingly important. The average age of the civilian dentist is increasing with no addition of younger men to lessen it. As a result the capacity to render services will be reduced and the wastage through death and retirement will be greater with each year of war.

STATISTICAL DATA RE DENTAL PERSONNEL IN CANADA
(as reported by Provincial Registrars)
as of February, 1944

Province	Number of Civilian Dentists actually practicing	Ratio of Civilian Dentists per capita Civilian Population	Total Number in Military Services	Total Number Retired from Military Services and in Civilian Practice	Number of Deaths & Retirements from Practice during 1943	Percentage of dental Personnel as compared with pre-war year 1938
Prince Edward Island.....	16	1/6000	7	0	3	53.3%
Nova Scotia.....	131	1/4479	52	3	2	77.5%
New Brunswick.....	75	1/7444	23	1	2	68.1%
Quebec.....	783	1/4235	175	11	21	89.5%
Ontario.....	1447	1/2617	579	10	35	74.8%
Manitoba.....	181	1/4140	71	5	1	71.0%
Saskatchewan.....	144	1/6200	64	8	3	68.5%
Alberta.....	166	1/5000	116	5	6	70.0%
British Columbia.....	300	1/2726	75	9	10	83.0%
Total for Canada.....	3743	1/3548	1162	52	83	77.6%

NEWS FROM THE PROVINCES

BRITISH COLUMBIA:

Vancouver Dental Society

The March dinner meeting of the Society was held on the 7th, in the Hotel Vancouver.

The guest speaker for the evening was Dr. C. S. Woolin of Portland, Oregon. His subject was "Acrylic Restorations and Some Techniques". Dr. Woolin has spent considerable time on this subject and has given it much study. He provided a very helpful evening for men who are working on this apparently easy but still difficult technique.

Our friends from the south of the line always receive a warm welcome in British Columbia.

On April 4 the Society met in the Hotel Vancouver.

It was fortunate for the Society that Brigadier Lott happened to be in the city, and he gave a most interesting talk on the organization and working of the Canadian Dental Corps overseas. Particularly he stressed the greater independence of the Corps making for more efficient operating. He mentioned the fact that in Canadian Army Hospitals overseas it is now necessary to refer dental cases to the dental department for consultation and treatment, thus making that department one of the recognized departments of the hospital, and also giving it more responsibility. He spoke of training facilities being provided, particularly in oral surgery.

Brigadier Lott is always most welcome in

British Columbia and the Society looks forward to an early return visit from him.

A very full agenda of business was dealt with. A new Constitution and By-laws was adopted from a report submitted by a committee appointed by the President for this purpose. Some of the changes made were:

- (1) Provision for Honorary membership.
- (2) A definition of what constitutes "good standing" in the Society.
- (3) Dues were brought back to the "pre-depression" level.

Besides this, clarification was made on many other points. The committee on Constitution and By-laws is to be congratulated on the study it made and the result attained.

Two new members were elected in the persons of Dr. W. J. Olmstead and Dr. M. R. Parkin. Both of these men are graduates of the University of Toronto.

Recognition was given to the hard work of the Secretary by granting to him a yearly honorarium.

Dr. Lea, speaking for the College of Dental Surgeons of British Columbia, provided some very interesting information, part of which summary showed:

As at March 1st, 1944 in Practice 301
C.D.C. 74

As at Jan. 1st, 1943 in Practice 296
C.D.C. 69

He also spoke of the increase in license fee from \$10.00 to \$20.00, and said that it had been received with excellent good grace

by the profession and he showed that this increase was general to a greater or lesser degree throughout Canada.

A motion was passed providing that all the privileges of the Society including voting, be granted without fees, to members of the C.D.C. who had been in good standing at the time of enlistment, and that all the privileges of the Society with the exception of voting be granted to other members of the C.D.C. for the duration of the war. This renews a previous motion that has been in effect to this date.

A fine program of table clinics was presented by members of the society. These were as follows:

Diagnosis Study Club—A Clinic on X-Ray Technique by Drs. D. Sutherland and J. Ingledew.

Acrylics by Dr. E. Nordin.

Temporary Inlays by Dr. W. Sproule.

Surgery by Dr. W. D. MacLeod.

Denture Work by Capt. I. Snider.

This wound up a very fine and full evening.

ALBERTA:

Edmonton Dental Society

The regular monthly meeting of the Edmonton Dental Society was held at the Macdonald Hotel on March 14. Dinner preceded the meeting.

About forty members and five guests attended including Miss Kramer formerly Secretary to the Business Manager of the American Dental Association, who spoke briefly of her position in Chicago.

During the evening Dr. R. A. Rooney, President of the Canadian Dental Association, spoke on Health Insurance Legislation and the Procurement and Assignment Board.

Reporting on their recent visits to the 80th Annual Midwinter Clinic at Chicago and the 61st Annual Sessions of the Minnesota State Dental Association, were Dr. H. A. Gilchrist, Dr. A. J. O'Neil, Dr. J. D. Hawkins, Dr. H. M. Knight and Dr. V. M. Lloyd.

A film "Care of the Mouth" was shown followed by three coloured motion pictures entitled "Abutment Preparation under Anaesthesia", "Infraorbital Injection and Mandibular Injection", loaned to the Society by the Novocal Manufacturing Company.

In honour of Dr. F. A. French of Ottawa, a special meeting of the Edmonton Dental Society was called on Monday evening, March 6. Dinner preceded the meeting at which there were forty present.

Dr. French practised in Edmonton until 1921, when he moved to Ottawa, and as the designer of "Dr. French's Posteriors", he is well known to the profession over the continent.

During the evening Dr. French spoke on many matters relating to prosthetic dentistry.

The regular meeting of the Edmonton Dental Society was held on April 6 in the Macdonald Hotel. Dr. W. Scott Hamilton, Director of the University of Alberta School of Dentistry assisted by Dr. H. E. Rawlinson of the Department of Anatomy outlined the newer knowledge of oral surgery. Dr. Hamilton had just returned from a meeting of the American Association of Dental Schools at Chicago and an intensive course in Oral Surgery at the University of Michigan at Ann Arbor.

Dr. H. A. Gilchrist of the Department of Prosthetic Dentistry briefly outlined the McGrane technique of denture construction.

A special dinner meeting of the Edmonton Dental Society was held in the Macdonald Hotel on April 19, when forty-five members and guests attended to hear Dr. M. H. Garvin of Winnipeg speak on the subject of "Post-War Dentistry". The President, Dr. W. E. Webber, presided and the speaker was introduced by the C.D.A. President, Dr. R. A. Rooney.

Dr. Garvin discussed the question of Compulsory Health Insurance, who should participate in the scheme, and how the plan should be carried out.

Dr. G. A. Gemeroy moved a vote of thanks to the speaker and Dr. W. Scott Hamilton, on behalf of the Society, presented Dr. Garvin with an onyx desk set in appreciation of his service to Canadian dentistry.

Calgary Dental Society

Lieut.-Col. A. M. Palmer, District Dental Officer No. 13 was the speaker at the Calgary Dental Society meeting in March. He gave

a talk on C.D.C. activities and organization in Canada, which was one of the most interesting of the year.

ONTARIO:

Fluorination of Water Urged by Health Board

Fluorination of Brantford's water supply in the interest of improved dental health of the community has been recommended by Dr. W. L. Hutton, Medical Officer of Health, and has now received the approval of the Board of Health. The Health Board will seek the cooperation of the City Council, the Board of Education and the Separate School Board in recommending to the Public Utilities' Commission that fluorine be added to the city water supply in the quantity of one part fluorine to one million parts of water.

Chatham Dental Society

Dr. Frank Giffen of London, Ontario, was the clinician at the Chatham Dental Clinic Meeting held March 30. Some fourteen dentists from Chatham and district were in attendance.

Dr. Follick Addresses Rotary Club

Dr. F. R. Follick was the speaker at the meeting of the St. Mary's Rotary Club, March 6. He spoke on "Dentistry as a Public Health Service".

Dental Nurses' Alumnae Association

The monthly meeting of the Dental Nurses' Alumnae Association was held on April 11, at the Women's Union. The president Miss Marjorie Jackson was in the chair.

The guest speaker of the evening, Miss Mary Dally of Simpson's Advertising Department, was introduced by Miss Lillian Potter. Miss Dally presented a very interesting address on Women's Clothes in Wartime. Miss Ellen Rollson moved a vote of thanks to the speaker.

The Dental Nurses Alumnae Convention will be held in the Royal York Hotel on May 29 and 30.

Ontario Dental Association

Out of town members and delegates are particularly invited to bring their wives to the

Sunday night reception of the 77th Annual Convention of the Ontario Dental Association.

An exceptional musical program has been arranged. This preliminary to the serious meetings affords an opportunity to meet and visit with friends under ideal conditions.

Come to the Roof Garden of the Royal York Hotel Sunday, May 28, at 8.30 p.m. Informal.

ALVIN HORD.

Hamilton Dental Society

The final meeting of the year for the Hamilton Dental Association was held on April 13 at the Royal Hamilton Yacht Club. Representatives from the Canadian Dental Association, the Ontario Dental Association, the Toronto Academy of Dentistry and the Canadian Dental Corps were present as guests of the Hamilton Association.

A short address by Dr. Don Gullett, secretary of the Canadian Dental Association and registrar of the R.C.D.S., was followed by an hour of entertainment.

The following officers were elected for 1944-45:

President—Dr. Allan Quick
Immediate Past President—Dr. Floyd Serena
Vice-President—Dr. Gordon Jackson
Secretary—Dr. Wallace Baxter
Treasurer—Dr. A. H. Leckie
Directors—Dr. W. Foster, Dr. D. Shultis.

S. S. White Company of Canada Celebrates Centenary of Parent Company

One hundred years of service is an achievement worthy of record. Truly an illustration of what is possible for a private enterprise to accomplish when motivated by high concepts of ethical business. President Mr. F. E. Steen of Philadelphia in a brief address spoke of the policy of the company in order of importance as "quality goods," "fair prices," "reasonable profit," and a "fair return to shareholders of the Company." In 1943 the Company had its greatest volume of business and in spite of increased wages and manufacturing costs there has been no increase in the retail price of S.S.W. products.

In Canada Mr. C. A. McKenna directs the company's business and in his capacity as Canadian manager he lives up to the highest ideals of the "House of White." He is widely known throughout Canada as a genial, generous, kind-

ly gentleman, fairminded and honourable. It was very evident from the remarks of senior officials present at the banquet that the respect of the Canadian Dental profession and Dental Trades for Mr. McKenna was shared by executives of the company. Mr. McKenna was eulogized by all who spoke and as a tangible token of friendliness Dean Arnold Mason presented him with a book on Canadian Art in which every guest inscribed his name.

There were about one hundred guests present at the S.S.W. centennial birthday banquet and Mr. McKenna (Charlie to everyone present) presided with his usual smile and humorous stories. Those who sat with him at the head table represented—officials of the company: Mr. F. E. Steen, Mr. W. T. Gouget, and Mr. S. S. White 3rd, and Mr. H. L. Nussbaum. The Dental profession: Mayor Conboy, Dean Arnold Mason, Drs. J. H. Duff, G. H. Campbell, Thos. Cowling, C. A. McLean, H. J. Hodgins, D. W. Gullett, J. H. Johnson, Lt. Col. Gerald Franklin. The Dental technicians: Mr. Charles Spence; and the Dental trades: Dr. H. A. Thompson, Mr. William McTavish, Mr. Trevor Temple, Lt. Col. Norman Alexander, and Mr. J. C. Paterson of Montreal. Other guests were Mr. A. J. Swanson, Mr. James Aitchison, Lt. Col. A. D. Lapan and Mr. J. G. Butler, president of the Students Parliament, faculty of dentistry, university of Toronto.

**National Refining Co. Celebrates
Fortieth Birthday and Entertains
Dental Technicians Study Club**

A very happy event took place on the evening of February 16, 1944, at the Granite Club, Toronto, when The National Refining Co. gave a birthday dinner, marking the completion of forty years in business. Members of the Toronto Study Club of Dental Technicians and Mr. C. A. McKenna were invited as guests and Dr. Mason, dean of the Faculty of Dentistry, was the guest of honour.

Mr. Wm. McTavish, genial president of the company, gave a brief review of how he and his two brothers Angus and Jack, with Mr. Robert Dunlop entered the supply business in the early days. He compared some of the primitive outfits of those days with the modern equipment of today. He was very happy to have made so many faithful friends in the

dental field during his business career.

Mr. Chas. McKenna, representing the dental dealers, referred to his many friends of former days, many of whom are today leaders in the profession and dental industry. He told many witty stories, as only "Charlie" can tell them.

Representing the Study Club, the writer thanked Dean Mason for his interest in promoting a good feeling between dentist and laboratory technicians. He also noted how the recent graduates of the dental faculty were very particular with their preparation work for prosthetic cases and that they were very explicit in the directions sent with cases to the laboratories.

Tribute was paid to Mr. Chas. L. Daly, senior member of the Study Club, who, through his intimate knowledge of prosthetic technic and his generous spirit, had won many loyal friends throughout Canada.

In dean Mason's address he spoke on matters concerning the development of dental services. He reviewed some of the events of former days connected with the dental college, referring to its location and primitive equipment. He made kindly reference to the former deans of the college, each one of whom, though different in personality, possessed a character which helped to make the dental faculty a very worthy part of the University of Toronto. He enthusiastically and briefly reviewed the progress of dentistry during the past decade and was happy to observe the diligent efforts of the dentists, dental dealers and dental technicians as they tackled the problems connected with dentistry as a professional service. All three units, like a tripod, were necessary each with the other in developing the high standard of dental service as we have it today.

Dr. Mason further recalled that several attempts had been made on the part of some laboratory groups to organize the laboratory industry into a corporate body, but the efforts seemed to be premature and failed. However he thought that, perhaps due to certain economic conditions, the time had arrived now for the laboratory technicians to be organized as a functional part of dentistry, and included in the Dental Act.

The evening came to a happy ending with everyone present wishing the personnel of

The National Refining Company many more prosperous years in business.

W. L. WALKER.

Academy of Medicine, Toronto, Invites Members of the Academy of Dentistry to Hear Miss Florence Horsbrugh

Members of both medical and dental professions assembled at Osler Hall on April 12 to hear Miss Florence Horsbrugh, Parliamentary secretary to the ministry of health in Great Britain. She is a member of the Imperial Parliament representing the constituency of Dundee, which was formerly represented by the Honourable Winston Churchill.

Miss Horsbrugh painted a word picture of public health services in England as developed during the last four and one half years to care for changed conditions brought about by the war. "The people are well," she said. "The food is very plain but nutritious and good." At one time nutrient foods were supplied free to expectant mothers and mothers of young children such as fruit juices, milk, Vitamin Capsules, etc. It was found, however, that these supplementary foods were used in greater amounts when a small charge was made—it seemed to be more appreciated. The speaker gave the maternity mortality rate as 2.47. She spoke of a decrease in mental diseases and in discussing Tuberculosis she said that in the early days of the war deaths increased but were now decreasing.

Everyone present was impressed with the grasp that Miss Horsbrugh possessed concerning the health problems of Britain and were

certainly enlightened by the manner in which so many difficulties were overcome.

Dr. Charles McLean presented a motion of appreciation to Miss Horsbrugh for her address.

QUEBEC:

Montreal Dental Club

On March 27, the members of the Montreal Dental Club were invited to the Children's Memorial Hospital to attend a demonstration given by Dr. Digby Leigh, anaesthetist. Dr. Leigh has for some time experimented with Sodium Pentothal as a general anaesthetic for dental and tonsil operation which has proven extremely satisfactory in these cases. His method consists first in giving the patient a few whiffs of nitrous oxide gas before injecting 5 to 10 cc. of 2½% Sodium Pentothal intravenously. Nitrous oxide is first given to permit the painless injection of the solution. The action of the Pentothal is almost instantaneous and its effects in conjunction with a mild nitrous oxide is proving to be an ideal anaesthetic in both dental and tonsil operations. Dr. Clayton Bourn in charge of Dentistry at the Hospital filled and extracted several teeth for three patients while under this form of anaesthetic. The demonstration was most interesting and Sodium Pentothal should have a permanent place as an anaesthetic in the field of Dentistry.

Refreshments were served and a very profitable evening was enjoyed by the 35 members present.

Change of Address

Notice of change of address should reach the Secretary's Office before the first of the month in which the change is to take effect. Please furnish old as well as new address.

Members in the Military Services may have the Journal sent to home address or military address as desired. If the Journal is to follow you it will, of course, be necessary to keep the office posted about address changes.

In all cases, the former address should be given.

Address all communications to:—

*Secretary, Canadian Dental Association,
211 Huron St., Toronto, Ontario.*

EMPIRE NEWS

GREAT BRITAIN:

Post-War Reconstruction

The Joint Committee on Dental Post-War Reconstruction, which was set up by the three dental organizations in the early part of 1942, has now issued its completed report. It is interesting to note that the committee's consideration of the problems of organizing a satisfactory scheme of national dental service for adults has led them to recommend "the establishment of a salaried dental service, to function side by side with existing private practice". This proposal is almost exactly parallel to that put forward in the White Paper for the organization of the general medical practitioner service and both will be judged by the same criteria. It might well be found that the two systems would work side by side in equal partnership, providing patients with a wider choice than could otherwise be afforded them. On the other hand it is conceivable that the area of private practice would gradually become more and more restricted until in time it virtually disappeared; a prospect which could only be contemplated with equanimity if, as the report puts it, provision is "made to allow the widest variations of treatment, and to encourage dentists providing treatment under the scheme to make available to their patients the latest and best techniques".—*Br. D. Jour.*, March 17, 1944.

Statistics

The Dentists Acts of 1921 and 1923 produced a Register in 1924 which consisted of 6,079 dental surgeons and 7,301 dentists registered for the first time. At the present time the respective totals are 9,865 and 5,327. Not all of these practitioners are, however, available for service to the public. It is estimated that 12,500 to 13,000 are engaged in practice in Great Britain, and that should the present rate of recruitment continue the number so engaged would fall to 12,000 by 1952 and 11,500 by 1962. The opening of the Register in 1921 introduced a large number of practitioners considerably above the normal age of entry to the Register. In consequence the average age of the profession is 50 years, 65 per cent being above the median practising age of 44 years. The age dis-

tribution as between Licentiate, etc., and Dentists 1921 is 47 years and 56 years respectively.—*Br. D. Jour.*, Mar. 17, 1944.

Effect of Dental Benefit

Treatment of persons insured under the National Health Insurance Acts has to be carried out to an itemized Scale of Fees which limits the scope of treatment and lowers the dentist in the eyes of the patient who is encouraged to regard him as one who sells various items of treatment at fixed prices rather than as one who places at the disposal of those needing attention the accumulated knowledge and skill of years of expert training and experience.—*Br. D. Jour.*, Mar. 17, 1944.

The Public and Dental Treatment

Of the several factors affecting recruitment which must be considered, probably the most far-reaching is the attitude of the public towards dentistry. Generally speaking the people of Great Britain have little regard for dental treatment and less appreciation of the vital importance of oral health. It is for these reasons, incidentally, that the industrial section of the community is content to sacrifice its teeth, and add to the ever-increasing number of denture bearing workers. Up to the present the "demand rate" for treatment has remained low and the available dental service has not only sufficed to meet the calls made upon it, but has even been in excess of the demand. The "demand" bears no relation to the "need". There are many factors which suggest that the disparity will decrease, in which event the decline in the number of practising dentists would inevitably create a serious deficiency in available dental service.—*Br. D. Jour.*, Mar. 17, 1944.

Public Dental Service

In the Public Dental Service there is much which acts as a deterrent to those who might otherwise contemplate entering the profession. The commencing salary of an assistant dental surgeon in the School Dental Service is considered adequate, but the path of promotion is very narrow. The School Dental Service is almost universally under the administrative

control of the medical officer. The chief dental officer rarely has any direct approach to the appropriate health committees of his authority and any representations he may desire to make must be made at second hand. This is certainly not in the public interest, for it means that on all matters of policy the expert is denied direct access to the appropriate committee, and progress is frequently stultified by a lack of appreciation of the special features of dental treatment on the part of the medical officer. As a result the tendency is to regard the School Dental Service as ancillary to the School Medical Service rather than as complementary to it.—*Br. D. Jour.* Mar. 17, 1944.

Membership of British Dental Association

In 1939 the membership was 4,893, whereas now it is approximately 5,720, of which number about 2,000 are on active service.—From report of Finance Committee of Br. D. Assoc.

Prayer Before Meetings of the Board

Mr. G. H. Teall proposed the following motion at the meeting of the Representative Board of the British Dental Association held February, 1944: "That prior to the proceedings of each meeting of the Board a prayer for God's guidance should be said."

In doing so, he said that the members had a common Father Who was the fountain of all wisdom, counsel and understanding, and he trusted they would agree that it was right and proper to seek His guidance. The prayer could be said by the Chairman or someone deputed by him, and it would help members to realize the importance of their meetings. The prayer he suggested should be used, which was based on one which was said before each day's session of Parliament, was as follows: "God our Father in Heaven, from Whom alone

cometh counsel, wisdom and understanding, we ask for Thy guidance in our meeting to-day and pray that, helped by Thy Spirit, the result of all our deliberations may be to the future good of our Association and the profession we serve." The motion was carried.—*Br. D. Jour.*

Scholarships for Sons of Dentists

There are a number of scholarships at our public schools which are reserved for the sons of members of the medical profession, but we believe that Cranleigh School, Surrey, is the first to extend a similar privilege to the sons of members of the dental profession. The Council of the School have decided that one of the nine scholarships, which are to be competed for in both March and June, will be reserved for the son of a member of the medical or dental profession.—*Br. Dental Jour.*

Training of Disabled Men as Dental Mechanics

The problem of the rehabilitation of men who have been disabled as the result of war service is being dealt with on a broad basis. Up to the present, training schemes have mainly been confined to men and women who can find occupation in the munitions industry but an extended list of forty-eight trades, for which training classes can be made available, was given by the Minister of Labour in the House of Commons recently. Included in these was dental mechanics. A number of disabled men were trained as mechanics in private workrooms after the last war, and there can be little doubt that an even larger number could be absorbed after the present war, particularly if they can be given a thorough preliminary training such as that given in the laboratories of Services.

GENERAL NEWS

U.S.A. Army Cuts Quota of Dental Students by Fifty Per Cent

As a result of new regulations by the War Department, medical and dental schools throughout the country will suffer a 50 per cent reduction in the Army quota of students scheduled to enter next year, it was announced

March 30. Instead of assigning 5,800 medical and dental students, as originally planned, the Army will admit only 2,800 for the term beginning in January.

Specifically, the quota for dental schools has been cut from 35 to 18 per cent and that for medical institutions from 55 to 28

per cent. These proportions are expected to be reduced further later.—*Jour of A.D.A.*

Institute on Dental Health Economics— University of Michigan

The School of Public Health of the University of Michigan announces plans for an Institute on Dental Health Economics to be held at Ann Arbor throughout the week of June 26 to July 1.

It is the purpose of this Institute to bring together a group of outstanding leaders in the field of dental health under the chairmanship of Dr. Kenneth A. Easlick, Associate Professor of Public Health Dentistry, in order that they may share their experiences and pool their thoughts on the improvement of the dental health of the American People. It is the plan of the Institute to review briefly the social and economic background of health problems, and against this setting to develop a comprehensive understanding of the dental problem. Minimum standards of dental health service will be considered and concise information will be presented to assist in the development of a program to solve the dental problem at this level of standards. It is intended that the work of the Institute will culminate, therefore, in concrete proposals for a dental health program designed to meet the challenging needs which are known to exist.

The registration fee will be ten dollars. Requests for application blanks should be sent promptly to Dr. Kenneth A. Easlick, School of Public Health, Ann Arbor, Michigan.

Post-Graduate Meeting of American Academy of Periodontology

The American Academy of Periodontology arranged a post-graduate course April 24-26. The meetings were held at the W. K. Kellogg Foundation Institute: Graduate and Post-Graduate Dentistry, University of Michigan, Ann Arbor, Michigan.

The following subjects and essayists appeared on the program: "Dynamics of Inflammation" by Valy Menkin, B.S., M.A., M.D., Professor of Pathology, Harvard University; "Pathological Circulatory Physiology" (motion picture taken through a microscope) by Kelvin H. Knisely, M.D., Department of Anatomy, University of Chicago; "Dentistry

in the Navy" by Lt.-Commander Harold E. Kerr; "Pharmacology of the Sulphonamides and their Toxic Effects" by Maurice Seevers, Ph.D., M.D., Professor of Pharmacology, University of Michigan; "Gingival Inflammation" by Balint Orban, M.D., D.D.S., Professor of Pathology, Loyola University; "Clinical Application of Sulpha Drugs and Penicillin" by M. S. Pollard, M.O., M.D., Professor of Internal Medicine, University of Michigan; "Dermatological Manifestations" by A. C. Curtis, D.D.S., M.D., Professor of Dermatology, University of Michigan; "University of Michigan Research on Dental Caries" by Philip Jay, Ph.D., University of Michigan; "A Classification and Aetiology of Periodontal Diseases" by Maynard K. Kline, D.D.S., University of Illinois; "Recent Advances in Chemotherapy" by Maurice Seevers, Ph.D., M.D.; "Fatigue" by Carl D. Camp, M.D., University of Michigan.

New Reimbursement Method for A.D.A. Travel Expenses

A definite formula for determining the amount of reimbursement to be made to committee members for expenses incident to attendance at authorized committee meetings was approved at the recent meeting of the Board of Trustees of the American Dental Association in Chicago.

It is the policy of the Association to reimburse committeemen for attendance at official meetings only for the periods they are necessarily away from their offices, using the following formula as a basis: Round trip railroad fare, the most direct route being used, plus Pullman (lower berth) or chair, whichever is indicated, and \$10 per day; except that when daytime travel is necessary the per diem allotment shall be \$5 per day of travel. Committeemen located west of the Rocky Mountains are granted \$30 additional per round trip to allow for the use of extra fare trains. Committee chairmen required to appear before the Board of Trustees or the House of Delegates are entitled to per diem reimbursement for whatever number of days are required to complete their business with those bodies, and for the period in advance of meetings when their presence is necessary for the completion of arrangements. Necessarily, they are entitled to per diem reim-

bursements for special travel when no committee meetings are involved.—*A.D.A. Jour.*

Roentgenographic Study of the Teeth of a Group of Dentists

Does the dentist see his dentist at regular intervals?

The April issue of the Journal of the American Dental Association reveals in an article dealing with a roentgenographic (x-ray) study of the teeth of a group of 350 dentists of the State of Tennessee that "the mouths of the dentists under study were in need of considerable restorative work".

The 350 dentists were from all parts of the state and their ages ranged from 21 to 65. From the entire group of 350 full-mouth x-rays, 102 were selected as being satisfactory for this study.

According to the data derived from this x-ray study of the teeth of 102 dentists, the number of missing teeth per mouth was 5.3. Metallic restorations (fillings) per mouth were 10.9 and metallic restorations with defective margins were 1.4 per mouth. Primary caries (decay affecting tooth enamel) averaged 1.8 per mouth, and secondary caries (decay affecting both enamel and tissue beneath the enamel) were 0.39 per mouth.

In addition to the conclusion drawn from the study that there was a definite need for restorative work in the mouths of the dentists, the article stated that "prevention of pathologic (diseased) conditions such as alveolar atrophy (toothsocket shrinkage) is needed."

Carl Koller, Discoverer of Local Anaesthesia, Dies at 86

Carl Koller, Austrian born ophthalmologist, whose introduction of cocaine as a local anesthetic in eye operations in 1884 inaugurated the use of local anaesthesia in other types of surgery, died in New York March 21 at the age of 86. For over fifty years he had practised his specialty in New York City.—*Jour. of A.D.A.*

Woman Dentist Heroine

Danielle Casanova, a dental surgeon who left her home and her profession to serve France in the underground movement, was caught by the Vichy police and delivered to the Gestapo in March, 1942. After months of torture, which failed to make her reveal the whereabouts of men in the French resistance movement, she has died in the notorious concentration camp at Auschwitz in Silesia.—*Br. Dental Jour.*

IN MEMORIAM

Ernest W. Hetherington, a native son of Victoria, British Columbia, aged 45, died March 20 following an illness of three weeks. He was graduated from the North Pacific College of Dentistry in 1919 following which he commenced practice in Victoria.

He served his profession and his patients with dignity and skill that will long be an example to all of us. He was also interested in music and all cultural events.

He was a past-president of the Victoria Dental Society and the British Columbia Dental Association and served for a number of years on the Council of the College of Dental Surgeons of British Columbia. All of these duties were capably discharged with a sense of deep loyalty to the members of the profession.

He was an active member of Britannia

Lodge A.F. and A.M. and a Past District Deputy Grand Master. He was also Past T.P.G.M. of the Ancient and Accepted Scottish Rite, Victoria Valley.

Dr. Hetherington is survived by his widow and one son, a student in the University of British Columbia.

Robert D. Thornton of Brampton, Ontario, died at his farm home in Peel County on March 14, 1944, at the age of sixty, following an attack of coronary thrombosis.

Dr. Thornton was graduated from the Royal College of Dental Surgeons of Ontario in 1912. The following year he joined the staff of the Dental School as demonstrator and later became professor of Dental Anatomy and Comparative Dental Anatomy. In 1922 he became Associate Professor of Operative Dentistry.

In 1924 Dr. Thornton was invited to become Dean of the Dental School in Richmond, Virginia. He accepted this invitation and continued in this capacity for six years. He returned to private practice in Toronto in 1930 and continued till 1942 when he retired to the Thornton homestead to farm in Peel County.

Dr. Thornton was an excellent dentist and a fine citizen of sterling qualities. He was interested in Dental Public Health, devoting much time and energy in promoting the value of dentistry as a health service. He was a past chairman of the Dental Public Health Committee of the Ontario Dental Association and a member of the Council of the Canadian Dental Hygiene Council. He was dental advisor to the Ontario branch of the Canadian Red Cross.

Dr. Thornton was a member of the Prince of Wales lodge A.F. and A.M., and the United Empire Loyalists' Association. He was a member of Mayfield United Church near his home.

He is survived by his widow and one son; a sister and a brother.

■
George A. Munroe of Saskatoon, Saskatchewan, died March 8 after a brief illness. He was graduated from the Royal College of Dental Surgeons of Ontario in 1903 and had practised in Saskatoon for the past 40 years.

He took an active part in civic affairs and was an alderman of the City from 1909 to 1911. He was a member of St. Andrew's Church, being Chairman of the Board of Managers. He was Worshipful Master of Saskatchewan Lodge A.F. and A.M. during 1909 and later was District Deputy. He was also a member of the Senate of the University of Saskatchewan.

Dr. Munroe is survived by one daughter, Dr. Gladys Munroe Campbell, one brother and two sisters.

■
William R. Winters of Ottawa died in Ottawa Civic Hospital on March 27, 1944.

Dr. Winters was graduated from the Royal College of Dental Surgeons of Ontario in 1891 and practised his profession

in Ottawa for 52 years. He was particularly well known throughout Northern Ontario.

He was an ardent sportsman, particularly interested in shooting. He was a member of St. Hubert's Gym Club for many years.

Dr. Winters is survived by his widow, one son and two daughters; also a brother, Dr. Henry Winters of Ottawa.

•
Robert Gilbert Thompson of Woodstock, Ontario, aged 67, died March 16. He was graduated from the Philadelphia Dental College in 1901 and since then practised in Woodstock.

He was a member of the School Board for over 25 years, resigning in 1941. He was a member of St. Gertrude's Church. He was one of the charter members of the Knights of Columbus formed in Woodstock in 1921.

Dr. Thompson is survived by his widow, three sons, two daughters and one sister.

•
Lieut.-Col. Fred T. Cogan of Vancouver, British Columbia, died in April. Dr. Cogan was a former resident of Guelph, Ontario, and mobilized the 29th Battery in that City in the last war. He practised dentistry in Guelph for many years and was widely known in military circles. When he returned from overseas in the first Great War, Col. Cogan moved to Vancouver where he practised his profession until the time of his death.

Col. Cogan is survived by his widow, one son, two daughters, a brother and a sister.

■
George Lambert Palmer of Toronto, Ontario, died in Los Angeles, California in March. He was graduated from the Royal College of Dental Surgeons of Ontario in 1899 and practised in Toronto until he retired several years ago. He was active in Parkdale United Church.

Dr. Palmer is survived by his widow, a son, a daughter, a sister and two brothers, Dr. L. C. Palmer of Toronto and Dr. R. J. Palmer of Detroit.

. . . SECTION FRANÇAISE . . .

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenant, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe
V. Plamondon, D.D.S., M.Sc.D., Québec
C. Godin, D.D.S., Trois-Rivières
I. Frappier, D.D.S., Valleyfield
E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan
A. Massicotte, L.C.D., Chicoutimi
V. Olivier, D.D.S., Sherbrooke
O. Desrosiers, D.D.S., St-Pascal
E. Venne, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAUDEAU, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

*Frein Anormal de la Lèvre Supérieure**

par GERARD de MONTIGNY, B.A., D.D.S., M.S.D.

Description

On rencontre assez souvent un frein anormal de la lèvre supérieure, placé sur la ligne médiane de la figure, chez les adultes, comme chez les enfants. Ces anomalies du frein de la lèvre supérieure semblent être héréditaires et se rencontrent chez les membres d'une même famille.

On remarque des variétés dans ces cas anormaux; il en existe de bien étroits et de bien larges; quelques-uns présentent une masse de tissu fibreux en forme d'éventail, avec une insertion sur la voûte palatine entre les deux centrales, en avant des papilles du palais.

Le frein de la lèvre supérieure occupe une position bien en vue dans la bouche; une anomalie du frein occasionne une anomalie de l'arc dentaire et un diastème assez considérable entre les deux centrales.

Le mouvement des lèvres accentue l'écartement des deux centrales.

Nous sommes en présence d'une languette de tissu fibreux, dont les points d'insertion sont au tiers supérieur de la face interne de la lèvre et à la face antérieure

* Clinique présentée, le 1er mars 1944, aux journées d'étude de dentisterie infantile.

du palais, sur la ligne médiane, en avant du trou naso-palatin. Son trajet s'étend de la lèvre supérieure, entre les deux centrales, à la voûte palatine. (Fig. No 1).

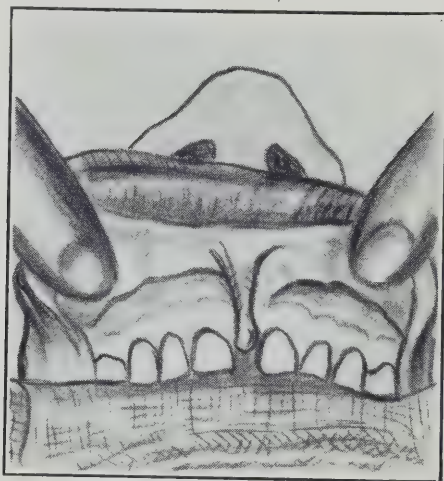


Figure No 1

Cette anomalie du frein, anomalie de volume et d'insertion, occasionne un écartement des incisives centrales, en malposition et en malocclusion. Cet état n'est pas seulement disgracieux, mais peut provoquer une irritation de la gencive, par suite du manque de point de contact; il peut, comme conséquence, produire une région de gingivite et de paradentose. Non seulement un frein anormal occasionne un diastème exagéré entre les centrales, mais aussi il déplace l'une ou l'autre dent en labio-version, (Fig. No 2, A), en linguo-version (Fig. No 2, B), ou en torso-version (Fig. No 2, C).

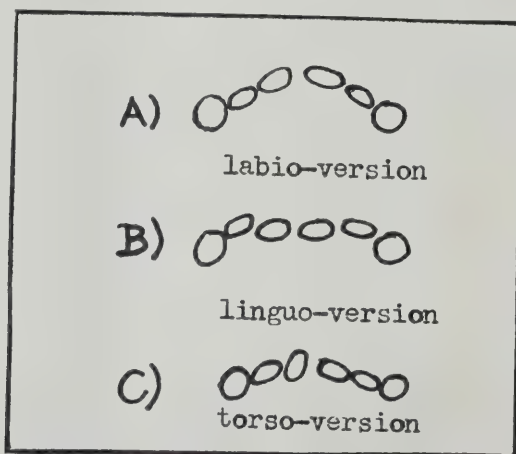


Figure No 2

Cette difformité se manifeste de trois façons:

(1) les couronnes sont écartées obliquement et les apex convergent l'un vers

l'autre; (Fig. 3, A).

(2) les apex des dents sont éloignés l'un de l'autre; (Fig. 3, B).

(3) les couronnes et les racines sont séparées. (Fig. 3, C).

Ce dernier cas est le plus fréquent.

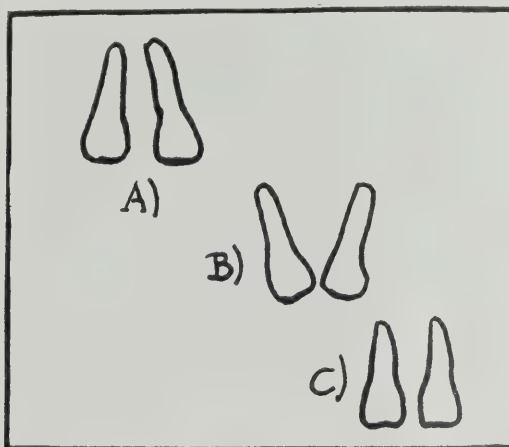


Figure No 3

Ces malpositions des centrales influencent la position des autres dents, qui, elles aussi, sont refoulées et occupent les endroits différents de ceux prévus pour leur situation.

Traitement (chez les enfants)

Ces cas sont traités par le stomatologiste, en collaboration avec l'orthodontiste. Mais il peut arriver que l'orthodontie n'ait pas de rôle à jouer dans le traitement, si le frein est enlevé, chez l'enfant, à une époque favorable.

Certains auteurs recommandent le déplacement du frein avant l'éruption des dents, mais cette façon de faire n'est pas pratique, pour les raisons suivantes:

(1) avant l'éruption des dents, il est trop tôt pour juger de l'état réel du frein. Un frein, qui paraît anormal, à l'âge de six mois, peut se modifier avec le développement du maxillaire et la sortie des dents.

(2) Un bébé, de moins d'un an, n'est pas un sujet bien commode pour une intervention chirurgicale minutieuse et délicate.

L'âge idéal pour pratiquer la résection d'un frein anormal de la lèvre supérieure est entre 8 et 10 ans, parce qu'à cet âge:

(1) l'étendue de la difformité peut être appréciée à sa pleine valeur;

(2) les petits patients peuvent être contrôlés plus facilement et l'opération peut être faite sous anesthésie locale;

(3) les centrales et latérales reviennent *d'elles-mêmes* en position normale, sous la pression qu'exerceront sur elles les canines, au cours de leur éruption.

Il y a diverses méthodes pour relever les freins anormaux. Nous en présentons une, ici, qui est simple, facile à faire et qui est dénuée de complication post-opératoire.

(1) Examiner les insertions supérieure, inférieure et latérales pour bien délimiter l'endroit de nos incisions;

(2) Faire une incision jusqu'à l'os, chaque côté du frein, en partant de l'insertion supérieure pour se rendre jusqu'aux dents; (Fig. No 4).

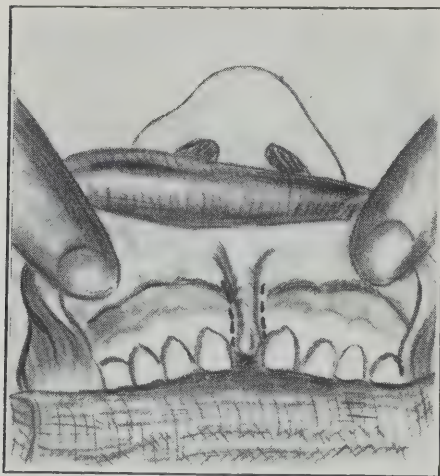


Figure No 4

(3) Faire une incision à l'insertion inférieure, c'est-à-dire, à la face interne des dents, au palais, en contournant cette insertion, qui est d'ordinaire, en forme de demi-cercle; (Fig. No 5).

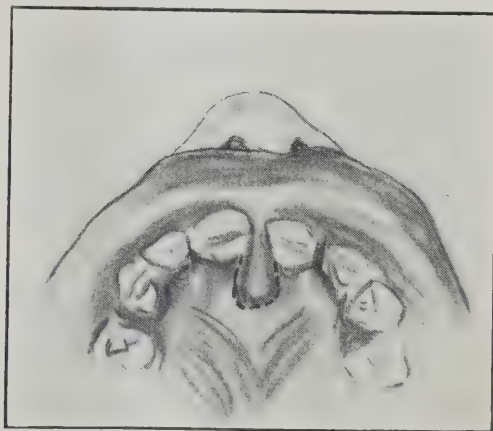


Figure No 5

(4) Joindre nos trois incisions en disséquant le frein;

(5) Quand le frein est décollé de l'os, dans toute son étendue, le tenir avec une pince hémostatique et couper l'insertion supérieure, qui le joint à la lèvre;

(6) Faire deux ou trois points de suture au replis muqueux, avec du catgut; (Fig. No 6).

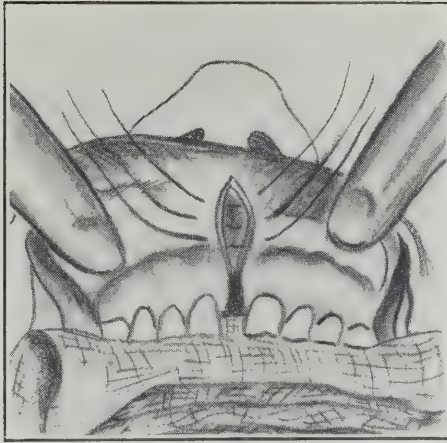


Figure No 6

(7) Badigeonner la plaie avec du Metaphen. La plaie guérit par première intention et l'os se granule entre les deux centrales et au palais. (Fig. No 7).

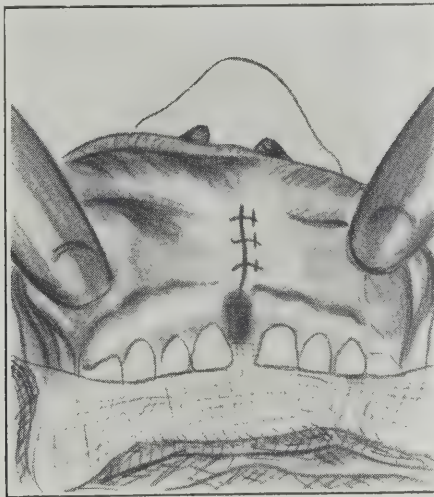


Figure No 7

Les deux lambeaux, le lambeau de la lèvre et de la gencive, ne peuvent pas se souder ensemble, parce que:

- (1) le mouvement de la lèvre prévient l'union;
- (2) le lambeau de la lèvre est suturé et la couche de tissu épithélial (muqueuse) repose sur le tissu conjonctif et empêche la réunion.

Plus tard, quand l'enfant est devenu conscient de son esthétique et de sa personnalité, il veut le contact de ses incisives. La chose est encore possible; le frein peut être réséqué, mais les dents ne se rapprocheront pas d'elles-mêmes: il faudra un

appareil d'orthodontie pour accoler ses centrales, ensuite les latérales, enfin les canines.

Pour finir, il faudra un appareil de prothèse quelconque pour maintenir les dents dans leur nouvelle position et combler le vide causé par la migration des dents. On peut tenter de combler le diastème entre les deux centrales par des couronnes en porcelaine; mais on est voué à un insuccès total, si on n'a pas d'abord enlevé le frein avant la fabrication des coiffes en porcelaine.

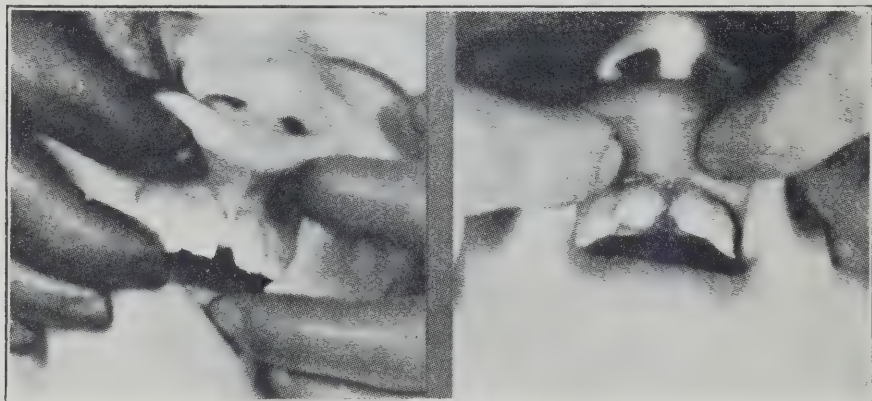


Figure No 8: Avant et après l'opération

Conclusion

La résection d'un frein anormal, qui cause un déplacement des centrales, peut être pratiquée au moyen d'une opération simple. Les dents se rapprocheront d'elles-mêmes sous la pression des canines en éruption, si le frein est réséqué, chez les enfants, avant la période de la sortie des canines.

Chez les adultes, l'opération se pratique de la même façon, mais il faut avoir recours à des procédés supplémentaires pour rapprocher les dents.

D'une façon générale, il n'y a pas de complications post-opératoires; il faudra prévenir le déclenchement d'une hémorrhagie, en se faisant pas trop loin (jusqu'au trou naso-palatin) l'incision linguale.

Enfin, il ne faut pas voir des freins anormaux partout; les enfants présentent souvent un espace assez grand entre les deux centrales, sans qu'il y ait des freins anormaux. C'est un signe certain de la présence d'un frein anormal quand la partie linguale du frein (partie, qui s'attache au palais) blanchit lorsqu'on tire la partie labiale.

Bibliographie

FEDERSPIEL, Matthew N.—"Surgical Procedures which Extend the Field of Dentofacial Orthopedics". J.A.D.A., Déc. 1927.

DAVIS, A. D.—"Surgical Correction of Abnormal Frenum Labii". J.A.D.A. page 292, 1931.

MEAD, Sterling V.—Oral Surgery.
397 est, boul. Saint-Joseph

Causerie donnée au Poste CBF

de la Société Radio-Canada,

le samedi 19 février, 1944, à 6h.30 p.m.

par Monsieur le DOCTEUR ARMAND FORTIER

QUELQUES CONSIDERATIONS SUR L'ASPECT DENTAIRE DE L'ASSURANCE-SANTÉ

J'ai cru qu'il serait de quelque intérêt, Mesdames et Messieurs, de vous entretenir brièvement, durant ce quart d'heure, d'un sujet d'une brûlante actualité. J'exposerai d'abord les grandes lignes du projet de loi d'Assurance-Santé. Je n'entreprendrai pas d'analyser ce projet dans son ensemble, je tenterai plutôt d'étudier l'aspect dentaire de cette importante question et les effets qu'elle ne peut manquer de produire, tant chez notre population qu'au sein de notre Profession.

Le Département fédéral des Pensions et de la Santé Nationale élabore en ce moment, vous le savez, sans doute, un projet de loi d'Assurance-Santé contributoire et obligatoire, visant à la conservation de la santé et à la prévention de la maladie. Il sera contributoire en ce que tous les citoyens, ayant un revenu déterminé, (lequel sera fixé par statut provincial) devront verser une contribution dont le montant sera fixé par la loi. Cette contribution ne représentera probablement qu'une partie de la prime, l'autre étant versée par le Gouvernement provincial ou par les employeurs.

Les bénéfices prévus par ce projet de loi peuvent se classer ainsi:—

1o: Bénéfices médicaux, chirurgicaux et d'obstétrique;

2o: Bénéfices dentaires;

3o: Bénéfices pharmaceutiques;

4o: Bénéfices hospitaliers;

5o: Bénéfices d'infirmières ou de services d'infirmières.

Ce plan prévoit en plus des subsides aux Départements de Santé provinciaux, en vue de procurer les traitements et, s'il le faut, l'hospitalisation aux personnes souffrant de tuberculose, du cancer, de maladies mentales, de maladies vénériennes, ainsi que pour la formation professionnelle du personnel nécessaire au bon fonctionnement d'un tel plan.

Ces grandes lignes que je viens de tracer vous donnent une idée de l'envergure du projet de loi d'Assurance-Santé,—qui n'est lui-même qu'une partie du plan, plus vaste encore, de Sécurité Sociale, dont Sir William Beveridge et le Professeur Marsh sont les protagonistes.

Qu'il me suffise d'ajouter que ce plan d'Assurance-Santé prévoit, pour sa réalisation, une dépense annuelle supérieure à \$250,000,000. de dollars.

Il ne m'appartient pas de discuter des possibilités économiques de l'application de ce plan. Je laisserai à d'autres personnes plus qualifiées le soin de le faire. Vous me permettrez bien, sans doute, de considérer seulement avec vous l'aspect dentaire de ce grave problème.

Le 8 mai dernier, l'Association Dentaire Canadienne exposait, de façon non équivoque, devant le Comité parlementaire de Sécurité Sociale siégeant à Ottawa, l'attitude de la Profession, sans vouloir approuver ou condamner le principe de l'Assurance-Santé. N'ayant pas été consultés lors de son adoption par le Gouvernement, les représentants de l'Association Dentaire Canadienne, (dont l'un de la Province de Québec) exprimèrent l'opinion qu'aucun projet d'Assurance-Santé d'envergure nationale ne serait complet sans l'inclusion des soins dentaires préventifs.

J'insiste, Mesdames et Messieurs, sur le fait que la Profession dentaire n'a pas cru devoir se prononcer sur l'urgence qu'il pouvait y avoir ou non de mettre en vigueur une semblable législation, mais qu'advenant l'adoption de ce plan, les soins dentaires devraient de toute nécessité y être inclus.

Mesdames, Messieurs, d'autres conférenciers vous ont exposé en ces dernières semaines jusqu'à quel point la carie dentaire et les foyers d'infection ayant leur siège dans la bouche peuvent affecter la santé générale. Je ne reviendrai pas sur ce sujet. Tout comme les autorités médicales les plus respectées, les autorités gouvernementales ont, elles aussi, reconnu les avancées de la Profession dentaire, à l'effet que la carie des dents est la maladie la plus répandue au sein de notre population, en même temps qu'un facteur de première importance dans l'éclosion et le développement des maladies qui affligent l'humanité.

Il est évident que le but visé par les législateurs dans l'application du projet de loi d'Assurance-Santé, ne peut être de guérir la population de tous les maux qui l'affligent, ce qui serait une dangereuse utopie, mais bien de tendre par tous les moyens à former une génération saine et forte de jeunes canadiens. Ce but est tellement évident que, pour en bien définir, pour en bien marquer l'esprit, on a donné le nom d'Assurance-Santé et non pas d'Assurance-Maladie à la législation qui en rendra l'application possible. En conséquence, la Profession croit que, dans son domaine, le seul moyen d'atteindre le but visé est de concentrer les efforts et de limiter les soins à donner aux enfants de moins de seize ans.

Il faut remarquer que, d'après les dernières statistiques fédérales, trente pour cent de la population, soit 3,500,000. enfants seraient compris dans cette catégorie.

Le fait de limiter les bénéfices dentaires aux enfants d'âge scolaire et pré-scolaire milite fortement en faveur du succès éventuel d'un tel plan. De plus, sachant que les soins dentaires prodigués à ces enfants seront nécessairement accompagnés d'un enseignement de l'hygiène de la bouche, il y a tout lieu d'espérer que cette jeunesse, après avoir participé pendant dix ans ou plus aux bénéfices de l'Assurance-Santé et réalisant la valeur des soins dentaires comme facteur de santé, continuera par la suite à prendre les soins nécessaires pour garder bouche et dents en bon état. Ces enfants ne s'exposeront pas ainsi à devenir plus tard des édentés qui, hélas! sont en définitive des infirmes de la bouche.

D'autre part, étant donné que 90% de la population de notre province, comme de notre pays, souffre de troubles dentaires, que seulement onze ou douze pour cent de ceux qui entrent dans cette proportion ont recours aux soins du dentiste, il est évident que les 4,000 chirurgiens-dentistes du Canada,—dont 900 dans la Province de Québec—seraient dans l'impossibilité physique de parer à ces besoins accumulés chez adultes depuis de longues années. C'est un fait établi qu'en d'autres pays, notamment en Angleterre, toute tentative de prodiguer les soins dentaires à la population toute entière a conduit à la faillite de cet aspect de l'Assurance-Santé, parce que les besoins accumulés chez les adultes étaient pour ainsi dire irréparables.

Nous croyons que, seul, le plan qu'a suggéré l'Association Dentaire Canadienne a des chances d'amener un contrôle efficace dans le domaine de la santé publique, en ce qui concerne l'hygiène dentaire. Le plan prévoit, de plus, que, de temps en temps, la limite d'âge pourra être avancée progressivement jusqu'à seize, dix-sept ou dix-huit ans, incluant par conséquent dans cette nouvelle catégorie ceux qui auront reçu des soins réguliers jusque là.

Cette façon d'attaquer le problème de la carie dentaire offre seule quelque garantie de succès. Si les enfants de moins de seize ans sont tenus à un examen périodique et aux soins dentaires révélés nécessaires par cet examen, il y a lieu d'espérer que la prochaine génération jouira d'une saine dentition. Le Canada aura, de ce fait, le mérite d'être le premier pays au monde à avoir atteint un tel degré d'avancement dans l'amélioration de la santé publique.

Ceci ne libère pas l'adulte de l'obligation qu'il a envers lui-même de prendre soin de sa bouche et de ses dents, comme moyen de se maintenir en bonne santé.

Les bénéfices dentaires auxquels auraient droit les enfants, d'après ce plan de l'Association Dentaire Canadienne, peuvent s'établir comme suit:

- 10: Examen et traitement prophylactique tous les six mois;
- 20: Extraction et obturation, si nécessaire;
- 30: Usage de l'anesthésie et de la radiographie, lorsque les circonstances le demanderont;
- 40: Droit aux services d'un spécialiste, lorsque le besoin s'en fait sentir,—par exemple pour le redressement des dents;
- 50: L'enseignement de l'hygiène dentaire, de la prévention dentaire qui doit, de toute nécessité, jouer un rôle prépondérant dans l'application d'un tel plan.

Ces traitements dentaires seraient prodigués par le dentiste, dans son bureau privé, exception faite pour les cliniques déjà existantes.

Ces traitements seraient défrayés à même les fonds de l'Assurance-Santé, d'après une échelle d'honoraires établie après entente entre la Commission provinciale et le Collège des Chirurgiens-Dentistes.

Le patient aurait toujours le libre choix du dentiste et ce dernier serait libre également de faire partie ou non de cette organisation.

Les représentants de la Profession dentaire ont insisté auprès du Comité parlementaire de Sécurité Sociale sur la nécessité de lui laisser son autonomie dans l'administration de cette loi, si l'on ne veut pas que les professionnels, perdant toute liberté d'action, ne perdent en même temps l'initiative qui est à la base de tout développement scientifique, pour ne devenir que des fonctionnaires sans idéal.

Vous concevez bien, Mesdames et Messieurs, que l'application d'une semblable loi d'Assurance-Santé imprimerait à la Profession dentaire une orientation toute nouvelle et apporterait aux soins à donner aux enfants une prépondérance de premier plan. Les dirigeants de la Profession, en vérité, prévoyaient cette évolution.—Depuis quelques années, la Commission d'Hygiène Dentaire de notre Collège avait fait des démarches dans le but d'organiser, à l'intention des praticiens, des cours de perfectionnement en dentisterie pour enfants. L'an dernier, un questionnaire envoyé à tous nos confrères de la province et auquel un grand nombre de ceux-ci répondirent, nous avait révélé l'intérêt suscité chez eux par l'idée d'un tel cours de perfectionnement professionnel condensé en quelques jours.

Poursuivant, cette année, la réalisation de ce projet, réussissant à y intéresser le "Canadian Dental Hygiene Council", notre Collège des Chirurgiens-Dentistes de la Province et sa Commission d'Hygiène Dentaire ont trouvé auprès des Universités de Montréal et McGill l'accueil le plus bienveillant et le plus précieux. Les Facultés de Chirurgie-Dentaire de nos deux grandes Universités se sont empressés de mettre leur corps professoral et leurs facilités d'enseignement à la disposition de la Profession toute entière. En son nom, je veux leur en exprimer publiquement toute notre reconnaissance et les féliciter de s'être si complètement associées à notre initiative.

En effet, les premier, deux et trois mars prochain, le 1er et le 2 mars, à l'Université de Montréal, le 2 et le 3 mars, à l'Université McGill, un cours théorique et pratique de dentisterie pour enfants sera professé par le DOCTEUR GEORGE MORGAN, spécialiste réputé de Chicago, ainsi que par un certain nombre de professeurs de nos deux Universités.

Ces leçons, théoriques et cliniques, porteront sur tous les points de la dentisterie pour enfants. Elles s'efforceront de ne rien négliger et embrasseront les plus récentes conceptions de son aspect psychologique ainsi que les techniques modernes pour prévenir la déviation des dents et la déformation des arcades. Grâce à la précieuse coopération du corps médical, elles seront complétées par des conférences sur l'hygiène alimentaire et la bonne nutrition, d'une part, sur l'hygiène et les soins de l'enfance, d'autre part, par un diététicien et par un pédiatre renommés.

Il avait d'abord été résolu, pour des raisons de pédagogie, de limiter à une trentaine par Université le nombre des dentistes appelés à suivre ce cours. Devant les inscriptions très nombreuses, dépassant actuellement la centaine, nous avons dû

modifier nos plans et nous avons décidé d'accepter, aussi bien à l'Université McGill qu'à l'université de Montréal, tous ceux de nos confrères de la province toute entière qui voudraient bien répondre à notre appel et venir à Montréal, les 1er, 2 et 3 mars prochain, suivre les cours théoriques et cliniques, spécialement donnés pour eux sur la dentisterie pour enfants.

Je demande encore ce soir, à tous mes confrères, dans la province toute entière, de profiter de cette occasion exceptionnelle pour se perfectionner dans une branche de l'art dentaire, qui devient chaque jour plus importante. Je souhaite que ma voix soit entendue par un grand nombre d'entre eux et qu'ils participeront nombreux à nos journées d'études. L'enthousiasme dont ils ont déjà fait preuve jusqu'ici, en cette circonstance, nous réjouit infiniment, car, en définitive, c'est notre population toute entière qui en profitera, c'est la santé publique qui en bénéficiera.

Et je désire, avant de terminer ce confiant entretien, souligner avec la joie la plus grande la bonne, la parfaite entente qui règne entre nos deux Facultés dentaires, celle de l'Université de Montréal et celle de l'Université McGill, de même qu'entre ces deux Facultés et le Collège des Chirurgiens-Dentistes de la Province que j'ai l'honneur de présider. Cet accord si amical se retrouve, du reste, dans toute la province, entre tous les membres de notre Profession, qu'ils soient de langue française ou de langue anglaise.

Et tous, dans une bonne volonté unanime, ont collaboré à la préparation si réussie du cours spécial de dentisterie pour enfants, qui sera professé, à Montréal, les 1er, 2 et 3 mars prochain.

Acryliques

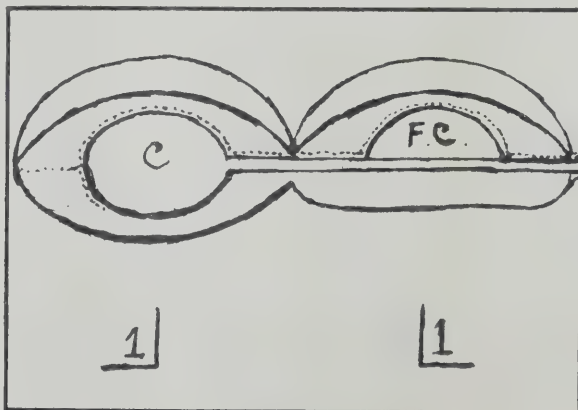
Questions et réponses par le docteur MAURICE STERN, D.D.S.

Traduction: docteur A. THIBAUDEAU

Question: Je me sers de substances acryliques depuis un certain temps avec des résultats satisfaisants, mais j'éprouve certaines difficultés avec les couleurs.

Voici mon problème:

J'ai construit un pont de l'incisive droite à la canine gauche. La culée de droite consiste en une coiffe sur base coulée, et l'autre, la canine gauche est une couronne trois-quarts, coulée aussi. Les culées sont jointes entre elles par une travée en métal. J'ai refait l'acrylique de ce pont à plusieurs reprises sans obtenir l'identité des couleurs des centrales. J'espère que vous pouvez m'aider.



Réponse:

Vos difficultés viennent de l'inégalité quantitative des deux centrales. C'est là qu'il faut faire la correction. La centrale droite est recouverte d'un noyau coulé opaque, en relation avec la surface acrylique. C'est ce noyau qu'il faut construire sous la centrale gauche. Ce faux noyau donnera à la centrale gauche la même opacité qu'on trouve à la droite. Voir le diagramme.

De la sorte vous devriez avoir deux centrales de même valeur et de même couleur.

N.B. Toute question doit être envoyée au Dr Maurice N. Stern, D.D.S., 114-06 Queens Boulevard, Forest Hills, L.I., New York, U.S.A.

La Bibliothèque

Docteur PAUL E. POITRAS

Depuis les débuts de l'année, les événements les plus graves se précipitent d'une façon ultra-rapide à la Faculté de chirurgie dentaire; de nombreux changements vont révolutionner l'enseignement donné. Parmi les améliorations apportées, je dois mentionner la bibliothèque.

La bibliothèque de la Faculté est devenue une filiale de la bibliothèque centrale de l'université de Montréal. De ce changement, il résulte que la bibliothèque de la Faculté, une fois réorganisée, sera accessible aux membres du Collège des chirurgiens-dentistes de la province de Québec et aux étudiants, tous les jours de l'année académique.

Cette bibliothèque peut devenir si chacun veut mettre la main à la pâte, un centre didactique de premier ordre qui rivalisera avec les bibliothèques canadiennes spécialisées; enfin un sanctuaire où les jeunes, ambitieux de savoir, et les vieux, désireux d'augmenter leurs connaissances, se réuniront dans un même but: l'étude.

Dès sa fondation, vouée à l'enseignement et à la culture de la chirurgie-dentaire, il faut en continuer la tradition en développant le goût des choses de l'esprit et en combattant l'apathie, si commune chez les nôtres.

Malheureusement la bibliothèque, depuis toujours, n'était ouverte qu'aux professeurs de la Faculté avec le résultat que les trésors accumulés ne profitaient qu'à un groupe trop restreint, elle ne remplissait pas son oeuvre: celle d'activer la vie intellectuelle des chirurgiens-dentistes.

Cette anomalie ne pouvait durer plus longtemps: le conseil de la Faculté, conscient du rôle patriotique qu'il doit tenir, a décidé que, pour instruire les étudiants, encourager les recherches, aider les dentistes, les livres, rangés sur les rayons, ne profiteraient plus exclusivement au corps enseignant, cesseraient de demeurer en proie à l'action du temps et de la poussière, à l'avenir, seraient d'accès facile à tous les chercheurs.

Un inventaire se fait, depuis quelques semaines, par une personne compétente, pour réorganiser la bibliothèque sur des bases solides, l'installer sur un plan moderne. Tous les ouvrages, fascicules, revues sont classifiés; le catalogue, les fiches, par ordre alphabétique, sont complétés.

Il faudra acheter des ouvrages modernes, compléter les collections des journaux, des revues, etc. faire des acquisitions nouvelles. Nous espérons augmenter nos collections par des échanges, des dons, des achats.

Il faut se souvenir qu'une bibliothèque bien comprise dirige l'évolution intellectuelle des générations. Pour arriver à ce but il nous faut l'aide d'un chacun et de tous. Montréal, 9 mars 1944.

La Société Dentaire de Montréal

MINUTES DU SECRETAIRE

Le 21 mars 1944, la Société Dentaire de Montréal a tenu son assemblée mensuelle à l'Université de Montréal. Quarante membres étaient présents. Le docteur Gaston Lajoie, secrétaire, donna le rapport de la dernière séance dont le docteur J. L. Laporte, secondé par le docteur Louis Lépine préposa l'adoption.

Le docteur Paul-E. Poitras rapporte que le docteur Gabriel Lord, dans une conférence donnée à Halifax N.E., au mois de février, sur la technique McGrane, a été apprécié au point que les dentistes de la Nouvelle Ecosse l'ont invité à donner d'autres cours, puis il parle du docteur Amherst Hébert qui, à la suite d'une étude publiée dans l'Oral Health du mois de février sur l'hygiène dentaire dans le Québec, a été demandé par la rédaction de cette revue ontarienne d'écrire une série de douze articles sur le même sujet. La Société vote des félicitations à nos deux confrères qui travaillent au bon renom des dentistes de langue française de notre province.

Le docteur Alphonse Plessis-Bélair prie ses confrères de donner à la campagne de souscription du fond des "Anciens de l'Université de Montréal". La cotisation annuelle est de deux dollars, le surplus, versé au bon vouloir d'un chacun, est divisé en deux parties: 60% est capitalisé et 40% est dépensé au bénéfice des étudiants. Le docteur Ernest Charron demande d'être généreux afin de dépasser notre quote-part fixée à \$230.00. Immédiatement il remet un chèque de cent dollars au docteur Bélair.

Le docteur Amherst Hébert lit un article anonyme publié dans le "Journal de l'Association Dentaire Canadienne" intitulé "L'Anglicisme chez les dentistes". Une discussion s'élève sur la définition et l'emploi des mots "oral et buccal" entre les docteurs Denis Forest, R. Lamontagne, et Paul-E. Poitras.

Le docteur Gaston Lajoie donne un travail sur l'usage des plastique en chirurgie dentaire et montre toute une série de modèles très bien faits.

Le plastique, dit-il en résumé, semble donner de meilleurs résultats que la porcelaine au point de vue esthétique, c'est un matériel idéal pour faire une coiffe, une dent à pivot, une incrustation à condition de l'employer à bon escient et de suivre rigoureusement les lois de la préparation des cavités.

Les coins des dents incisives à reconstituer en plastique demandent toujours une armature; si trop de substance manque, une coiffe est préférable à une incrustation.

L'expérience a prouvé que 50% des obturations en plastique faites directement dans la bouche n'ont pas donné de bons résultats de plus il ne faut pas que ces obturations soient touchées ni par la muqueuse buccale ni par les doigts de l'opérateur ni par un instrument chaud pour être une réussite.

Les ponts renforcés par une armature appropriée rendent de grand service; les coiffes, les overlays, les inlays "pin-ledges", font de bonnes culés sur les dents antérieures; les M-O-D, les couronnes en or ou en plastique sont employées sur les dents postérieures.

Si nous voulons garder toute la valeur de ce matériel, il nous faut lui donner le rang qu'il mérite sans le déprécier ni l'encenser outre mesure. Sachons en tirer le plus grand bénéfice possible tout en travaillant à faire un autre pas en avant vers le progrès.

Le docteur A. L'Archevêque remercia le conférencier.

PAUL-E. POITRAS, Archiviste.



Photograph by Dr. E. B. Sisley, New Toronto, Ontario.

HALIBURTON, ONTARIO

"Two contrary laws seem to be wresling with each other nowadays; the one, a law of blood and death, ever imagining new means of destruction and forcing nations to be constantly ready for the battlefield—the other, a law of peace, work and health, ever involving new means of delivering man from the scourges that beset him. The one seeks violent conquests, the other the relief of humanity. The latter places one human life above any victory; while the former would sacrifice hundreds and thousands of lives to the ambition of one."—by Pasteur at the inauguration of the Pasteur Institute in Paris, Nov. 14, 1888.



ARNOLD D. A. MASON, D.D.S., F.A.C.D.,
Dean, Faculty of Dentistry, University of Toronto.

Portrait presented by The Royal College of Dental Surgeons of
Ontario, on the occasion of the 77th annual convention of The
Ontario Dental Association.

The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 10

TORONTO, JUNE, 1944

NO. 6

A Review of Operative Procedures with Reference to Technique and Cavity Preparation*

by GEORGE A. ELLSPERMAN, D.D.S., F.A.C.D., Bellingham, Washington

IT IS the old, old theme that all of us have heard and have discussed so much in our part of the two countries. Possibly operative procedures do not give us the exciting or appealing picture that many other studies of dentistry offer; generally the fundamental and more basic study or discussion of any subject excites less interest than the more speculative end of it.

We can all take considerable pride in the development that has taken place throughout the North-west in fine operative procedures and the assurance throughout the two countries that recognition has been given us. This paper will be very general and will take a random discussion of the subject.

First, I want to mention chair positions. This involves the seating of the patient, as far back in the chair as possible. The primary consideration is to be given the operator, not the patient. The back rest should be adjusted to fit the form of the back and hips of the patient and head rest adjusted to allow the proper angle to

the head. It is my experience that fifty per cent of my patients will slide forward in the seat thereby changing the mouth illumination obtained and if I permitted it, it would be unnecessarily tiring to me. Do not hesitate to change the patient's chair position, which may come from habits of slumping, for fine procedures are dependent on proper ease, access and illumination of the mouth cavity.

We speak and think of technique as being certain definite and detailed steps in the cutting of a cavity, in the making of an inlay or gold foil or jacket crown, yet too many think of such operative procedures as chair position, the use of clamps, separators, rubber dam, teamwork with the assistant etc. as not definite technique. Properly however, it involves no trial and error, but, when mastered, almost automatically takes the form of definite and standardized steps.

DENTAL ASSISTANT

In order to discuss a little more fully the steps of technique we will take next the team work or coordination of

*Presented before the Vancouver Dental Society.

effort of the dentist and assistant. A well trained assistant is almost as important as the operator because good standardized technique, step by step, cannot be done without her. Exactly half of the effort of placing a rubber dam is accomplished by the assistant. A well trained assistant plans ahead of each operation. The basic instruments and supplies are set forth upon the bracket table for the operator's convenience, ease and saving of time. That teamwork further evidences itself in the adjusting of the light for the best illumination, handing of instruments or taking them away even without so much as a nod from the operator. The use of the water and air syringe is automatic to her. The handling of compound for the blocking of clamps as well as other steps in technique is her part in the procedure. Who will say that she is not important to a fine operation? Furthermore, if she happens to be the possessor of a good pair of eyes and a good technical and professional understanding of her work, she is indispensable.

RUBBER DAM

It is profitless for me to suggest a rubber dam procedure for those who have developed a teamwork that is effective and efficient. For those who have not the steps that have proved best in my hands, and they are similar indeed to those used by several very well known operative dentists, follows:

At the beginning of the operation, the operator is provided, on the bracket table, with a rubber dam and punch, a piece of ligature and the clamp and instruments necessary for the class and location of the cavity to be operated upon. A six inch square of rubber dam should be used for all operations with the exception of the six anterior teeth, where a dam six by five inches may be used. There is nothing in operative procedure that should be more definitely standardized than the rubber dam technique. For

cavities occurring in the six anterior teeth, the dam should be applied from cuspid to cuspid, and where the cuspid is to be operated upon, the dam should be carried to the first bicuspid. For cavities occurring in the posterior teeth, the dam should include the central incisor to and including the first molar on that side, and, should the first molar require the operation, the dam should be carried to the tooth distally from it. When the rubber dam is started through the teeth, one lip of the punch must precede the other so that it will slip through without tearing. The nurse holds one side of the dam while the operator slips the rubber through a few key teeth. A soft muslin pad is placed over the face, the rubber dam being threaded through it, and is fastened with a suitable holder. With the aid of the ligature, the dam is gently forced through the remaining contact points. It must be stated that never is it necessary to ligate the teeth or to tie the dam on with ligatures. A dam properly applied should never in any way damage gingival tissues. With the lips held back out of the way of all operative trauma and with the jaws supported, the dam should be a comfort and an aid to the patient. A saliva ejector should also be used.

In the case of applying the dam from the upper central incisor to and including the first molar on that side the holes are punched starting with the central incisor. The length of the shank of the punch is the gauge for the first punch, in other words approximately one inch in from the edge of the dam. Six holes are punched in an arc ending with a large hole for the molar. A molar clamp is selected and after lubricating the dam with soap the jaws are placed through the molar punch hole. With the clamp forceps this is now carried to place over the molar, the rubber forced off the clamp and over the tooth. The rest of the procedure with the assistant is similar to that just given. (Figs. 1, 2, 3, 4.)

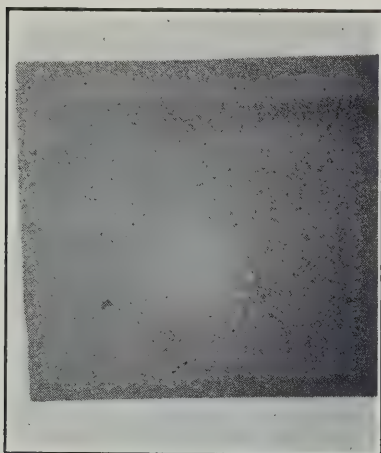


FIG. 1—Rubber dam punched properly from central incisor to first molar.

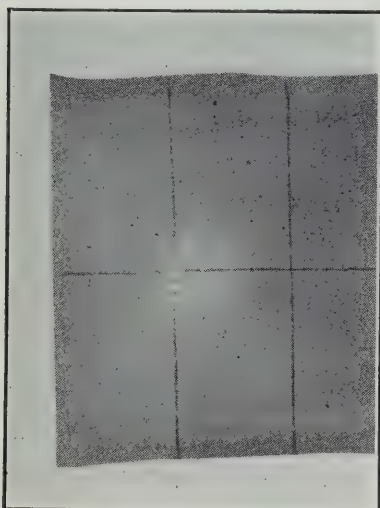


FIG. 2—Proper punching for six lower teeth from central incisor to first molar.

CLAMPS AND SEPARATORS

The use of clamps and separators in the average dental office has not been an exact technique. Too much has been trial and error resulting in so much waste time or a failure in the operation.

The best rubber dam clamp for molars, at least one that may be universally used on upper and lower molars, is the S. S. White number 18.

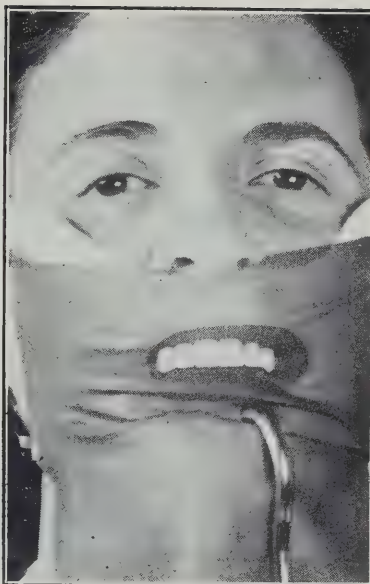


FIG. 3—Correct application of rubber dam. The holes for the six anterior teeth are punched in an arc. The length of the jaws of the punch indicate the distance in from the edge of the dam for the first hole.

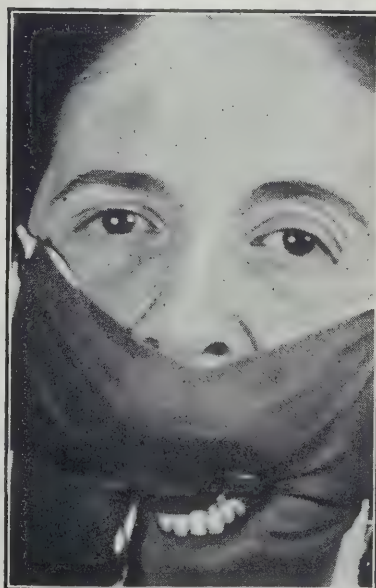


FIG. 4—Correct application of rubber dam.

The S. S. White number 26 is also a useful molar clamp. After the rubber

dam had been applied, a piece of ligature or a small piece cut from the corner of the rubber dam is placed posterior to the molar under the dam. The clamp should then be removed. Rubber dam clamps depend for their usefulness upon the balancing and fitting, without rocking or slipping, to the peculiar anatomy of the tooth receiving it. One should make the technique as simple as possible, therefore three number 18 and 26 clamps, slightly altered by grinding to accommodate anatomy will be infinitely better than a complete inventory of all the molar clamps made.

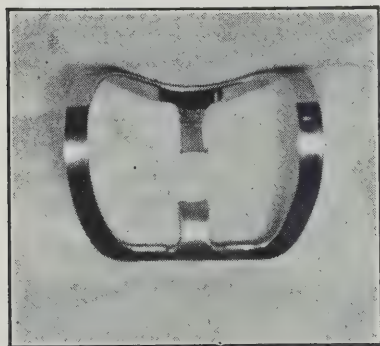


FIG. 5—Ferrier Gingival clamp.

The gingival clamp used is the Ferrier clamp, (Fig. 5) which is designed to give greater access to the cavity than other gingival clamps. The bows have good width and lie closer to the teeth. The labial jaw takes a direction more gingivally, thereby opening up a much better field in which to work. Here, again, in order to have a clamp to fit all teeth the operator should possess three or four of these clamps and grind the labial jaw to suit. This clamp, of course, was designed as a universal clamp yet in the case of extremely restricted necks of lower incisors the labial bow would extend past the mesial and distal root. The correction on the clamp would be to narrow the labial bow at least a third and with another stone make more concave the portion of the bow that comes in contact with the tooth.

In instances where the teeth are in bad malposition or where certain other abnormalities exist, it may be necessary to resort to some other gingival clamp. In that case a modified Hatch design clamp usually can be adjusted to the condition.



FIG. 6—Ferrier No. 1 separator blocked to place. Considerable advantage can be obtained in access over the Perry Black separator.

Separators to be used are the Ferrier separators. (Fig. 6.) The illustrations will show a very great advantage over their predecessors the Perry Black. Their main advantages are better access to the field of operation by the flattened labial bows, and that they will fit ninety nine per cent of all cases. The numbers one and two are designed to go to place between the incisors and the cuspids and incisors: the number three between the cuspid and first bicuspid: the number four between the two bicuspids: the number five between the second bicuspid and first molar.

I should here mention that the True separator is a good instrument and in many cases very desirable. It has a single bow thereby giving a somewhat better access. However, it does not lend itself to as standardized a tech-

nique of time after time application as the Ferrier separators.

To block the gingival clamp or separator the teeth are first dried with a blast of air. The assistant, after placing a tumbler of water upon the bracket, takes a compound stick, preferably the red, and heats in the flame a three quarter inch end. She removes it from the flame and holds it until it begins to turn at which time she quenches it quickly in water and holds the stick out to the operator to remove the softened end. He then blocks the bows of either instrument to the teeth and chills with a blast of air. A word of caution; while a gingival clamp is blocked with compound to stabilize it and hold it in place, a separator is blocked primarily to keep the jaws from traumatizing gingival tissues and bone in the interproximal areas of the teeth.

INSTRUMENTS AND INSTRUMENTATION

Advantage should be taken by all of us who are so familiar with the Ferrier Set of operative and cutting instruments to have many duplicates of these instruments especially in hoes, chisels and angle formers. Cutting instruments are relatively inexpensive when considering the great saving of time, the precision and ease of work that can be done with well designed, sharp, new instruments. It must be realized that fine cavity preparations are impossible, technique of standardized nature is impossible with clumsy, thick, worn out cutting instruments. Cutting instruments are soon sharpened past their real usefulness. The cutting edges are tempered to allow use of not over two millimeters. Yet they must be constantly sharpened to be effective. Cutting instruments must be of uniform thickness and width at the cutting edge as well as a definite length of blade. The hoes must have three sharp cutting edges. The blade itself must have definite thickness at the shank to eliminate spring and yet not be too thick for delicate effective work.

In the use of cutting instruments let me review with you that the greatest effectiveness is gained by cutting with the blade almost flat against the wall being cut or by a scraping motion at right angles. If this is not done, such as using the blade at too great an angle to the surface being cut, the results are irregular surfaces and rough sawlike margins which can be seen so often.

CAVITY PREPARATION

Procedure and technique naturally carries along in steps. That now brings us to cavity preparations. The illustrations I am employing with this paper are for gold foil cavities. Who will argue with me that with slight change in form due to the histology of the tooth and requirements of materials used to restore it, the same general procedure, technique and instrumentation is applicable whether it be for amalgam, cast gold inlay, porcelain inlay or gold foil.

Because of the great importance of the class five and class three gold foil cavities which can admit of little controversy as to their excellence, I believe that you all incorporate in your gold foil technique many basic features of these cavities. I, therefore, will review them.

Class five cavities, that is those occurring in the gingival third of labial and buccal surfaces of the teeth, are carious or erosive in origin. The cavity is outlined with a 33½ inverted cone bur, held at right angles to the wall to be cut, and making definite gingival, mesial and distal walls. The side of the bur may be used to outline the occlusal or incisal wall. The cavity is, from this point, carried to completion with two hoes; one 0.65 mm. wide, the other 1 mm. The gingival, mesial and distal walls will be covered by the gingiva, the guide for the outline. The mesial and distal walls flare away from the axial wall, providing strength. The occlusal and gingival walls afford retention by being slightly undercut. The interior line angles and point

angles are sharp. In the instrumentation of this cavity, the interior and the outline are established at the same time; in other words, each stroke of the hoe makes a clean cut of the wall from the axial to the cavosurface angle. The axial wall will be convex mesiodistally in order to keep a conservative depth throughout. (Fig. 7.)



FIG. 7—Class 5 cavity with tooth tipped to show incisal line and point angles.

The procedure for instrumentation of the Class 3 form is as follows: The cavity is roughly opened with a small reverse bevel Wedelstaedt chisel. Following this, a $33\frac{1}{2}$ inverted cone bur establishes the gingival wall, together with the linguogingival shoulder, which is the extension of the gingival wall to the lingual aspect. This shoulder will terminate the lingual outline. The gingival wall is laid straight across the gingiva and just beneath the free margin of the gum, or where that normally should be. The labial and lingual outlines are then finished with a gradual curve at the incisal aspect and the remaining outline extended as a straight line paralleling the lobe of the tooth. The interior form is cut with the small hoe and angle formers. The finished interior presents definite lingual, gin-



FIG. 8—Finished foil filling.

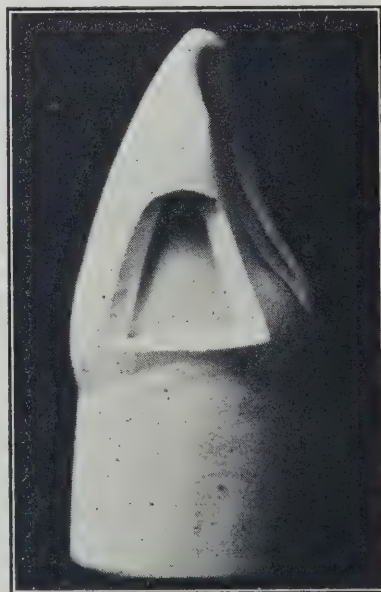


FIG. 9—Interior of Class 3 preparation. The tooth is tipped to show the gingival wall and line and point angles.

gival and labial walls with sharp line and point angles. The bulk of dentine lying under the labial wall is cut out



FIG. 10—Labial outline for Class 3 foil cavity. There is a rather abrupt curve at the incisal aspect and the straight outline parallels the lobe.

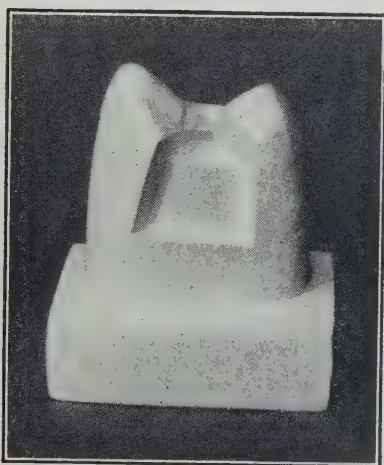


FIG. 11—Class 2 cavity preparation.



FIG. 12—Outline clearance in relation to adjacent teeth: Class 2 cavity preparation.

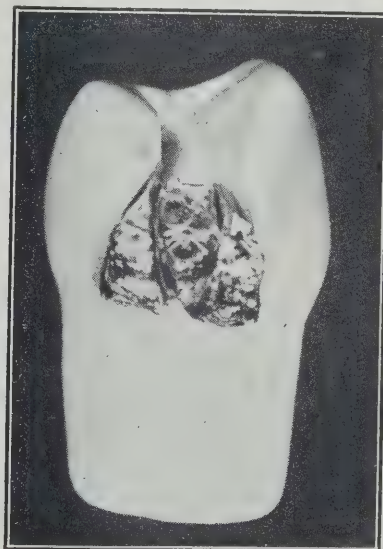


FIG. 13—Placing of non-cohesive cylinders in proximal portion.

with the small hoe, using the sides as well as the end of the blade. This brings the labio-axial line angle well out labially and provides for a labial approach into the cavity. The incisal angle is cut retentively with a small right angle hatchet. The gingival wall is finished with a slope gingivally and the retention of the cavity is between the gingival wall and the incisal angle. The labial and lingual walls actually

form obtuse angles with the axial wall. (Figs. 9, 10.)

SUMMARY

All of us at times "View with alarm" certain trends that come and go. The

thinking dentist today cannot help but be apprehensive. You have never before in your lives been so sought after for your services. Money seems to be no object. It has gotten cheap and plentiful and the weaker members of our profession have turned a fine profession into a racket. They have cast all ideals and all fine procedures aside for volume production. I have known men without sufficient strength of character who have pursued what Dr. Ferrier predicted in an address a year and one half ago as "Fools Gold." They have so overworked themselves that they are now through with dentistry long before their time.

Let us not be stampeded with arguments as to our responsibilities from the politician and professional welfare workers since we know them better than they do. Only a limited amount of proper work can be done in a given few hours and dentistry is an energy consuming work.

Remember, too, that in this land of ours, the term "Underprivileged" with the exception of a very few unfortunates is a misnomer. I think at times, we are confused and overawed by some



FIG. 14—Finished foil filling. These should be studied from the standpoint of saving tooth structure.

of our leaders in high places who sound forth, in demagogic phrases, absolute untruths. Good common sense must prevail and "over the long haul" not only will the public be best served but dentistry as an art will resume its place.

Eastern Ontario Dental Association

The 67th Annual Convention of the Eastern Ontario Dental Association will be held at the Chateau Laurier, Ottawa, Ontario, September 17, 18, 19, 1944. A cordial welcome is extended to all members of the profession.—C. Murray Purcell, Secretary.

Twentieth Anniversary Meeting of Montreal Dental Club

The Montreal Dental Club Annual Fall Clinic will be held in the Mount Hotel, Montreal, Canada, October 25, 26 and 27.—M. L. Donigan, Director, Drummond St., Montreal.

Dental Health*

by A. E. HIGGINS, Toronto, Ontario

Chairman Canadian Dental Association, Dental Public Health and Public Relations Committee

LAST year the Toronto City Council decided to provide medical and dental inspection for secondary school students. There were a number of very good reasons for this action, but time does not permit a thorough discussion. Local public dental health authorities were gratified as they had been in favour of such a service for a goodly number of years.

Dentists in general are impressed with the fact that early and regular dental service is a necessity, in this country, in order to preserve and maintain mouth health. Recognizing that primary school dental service has proven its value, it is logical to assume that an extension of this service to secondary school age students will not only continue those benefits, but also protect the investment already made.

Education is of primary importance in the control of dental disease. It is in the secondary school ages that individual responsibility for mouth health reaches its full importance. During earlier years the child's dental health instruction is curbed and often nullified by the parental attitude. For example, to a very large extent the child eats what it is given by the parents until school cafeterias and adolescent activities allow wider choice. I believe sincerely from personal observation that the tide turns and family home nutrition is influenced by the instruction of the home economics and domestic science teachers in the secondary schools.

The adolescent is more responsive to other influences also. Appearance is beginning to take on value. Experiences of classmates impress on the mind the relative values of individual

professional services. The desire to obtain dental services from an individual who has rendered a valuable service to a friend causes an evaluation of such service. It is at this age that education in health matters assumes a real importance. They begin to recognize the fact that responsibilities must be accepted and the health educator has a golden opportunity to stress this point.

It is always most interesting to me to look over a sea of faces in the auditorium or to watch a group of six to ten students walk into the examination room and select those who have good teeth before I actually see those teeth. Posture, grace, carriage, skin colour, eye appearance, neatness, cleanliness, facial form and features, particularly the lower third of the face, nose to chin, tell a great deal about the mouth before looking inside. I think we all unconsciously, employer included, realize these signs mean good health and good minds.

This is one of the general observations I have made in a survey of over 6,000 mouths.

I have examined 6,054 mouths and only 1,245 were without defects. In the balance of 4,809 mouths there were 20,409 defective permanent teeth. There were 5,975 permanent teeth lost forever by extraction. We only list those requiring orthodontia treatment when they are very bad and I found 330 mouths with very crooked teeth. 174 pupils had very dirty mouths and 137 were suffering from oral sepsis, a condition where disease germs and pus are present.

From the results of this survey I feel that the important fact to em-

*Presented to the Health Section of the Ontario Educational Association as part of a symposium.

phasize is this. There are far too many six year molars lost. Teeth which came in at six years of age and were neglected, as a result of parental ignorance, to such an extent that the child suffered and extraction was necessary. Parents do not yet know that baby teeth are vitally important and that the six year molar is not a baby tooth. The cavities are the responsibility of the teen age child, for at this age the parents unconsciously transfer the responsibility of mouth care to the child. They must learn that mother and dad no longer drive them to the dentist. I found that many had received no treatment since the last time they went to their primary school dentist. They must learn and must tell their parents that there is no school dental treatment in the secondary schools.

During our lives we have periods of susceptibility and immunity. Sometimes you catch a cold easily and at other times everyone else has a cold and you miss it. This depends to a large extent on your body resistance. Up until the time we are five years old, we have very little dental difficulties. That does not mean that there are no cavities in two year olds, but it does mean that there is no major neglect or widespread breakdown of dental structure. From five or six years of age to ten or eleven we have a bit more trouble and in our teens we really do need dental care. There is not much pyorrhea or gum trouble, for that comes in our later years of life. However, many signs of malocclusion or imperfect biting arrangement of the teeth may be detected and proper steps taken to prevent these gum diseases from attacking us in our later life. We do not have our appendix removed every year, but we do need dental attention every year. Sometimes a really fine mouth which has given no dental difficulties will suddenly within a few weeks begin to breakdown rapidly. We do not yet know why, but we do know that most of us are reasonably safe if we have

a good dentist examine our mouths carefully and thoroughly every six months.

Secondary school students offer many excuses for the condition of their mouths. Many said, "I should see a dentist; it has been a long time since I visited one and I know there is trouble, but I have just put it off." Some said, "My dentist is in the army, whom do you recommend?" Unfortunately the Department of Health does not favour a recommendation, as to the qualities of any particular dentist's services, but my policy has been to tell them this.—In setting out to choose a dentist, I believe it is wise to inquire from the most intelligent among my friends, not those who want the cheapest, but those who want the best. I would inquire,—does your dentist sterilize his instruments? Is he clean? Is he kind? Is he careful? Does he belong to his local dental association? Does he take post graduate courses? Does he talk about dentistry? Does he discuss your mouth health thoroughly with you? These and other things of a similar nature are the trade marks of a capable dentist and after I have asked a number of selected friends I shall make a tentative choice and I will see for myself what that dentist does on my first visit. Does he examine my teeth with the same care he would his own? Does he advise x-rays? Does he clean my teeth? Does he tell me what I want to know, the condition of my mouth? There is a little booklet distributed by the Canadian Dental Hygiene Council, 312 Medical Arts Bldg., Toronto, entitled "If I Were You". This booklet will give you this information in much better words than I have time for.

I found that many students had recently moved into town, probably because their families had accepted work in war industries. Most of these students have not yet chosen a dentist and most of them have poor mouths which probably indicates the benefits of school dental services. In metropolitan areas primary school children are given a distinct advantage, as

school dental service is provided there, while rural areas have not generally established such services.

Some said, "I have just been to the dentist and there is nothing to do". Usually we have found that the truth has become slightly twisted. Time flies and it is often a matter of ten months or a year since "I have just been to the dentist". I remember one girl who said in full assurance, she had "just been to the dentist". Upon examining her mouth I found a number of very large cavities, one so deep that it had penetrated into the pulp or nerve. Then she said, "The treatment has just fallen out and I have lost another just because of the school dentist; the teacher made me go". This was definitely a falsehood, because she said her mother had refused to sign the pink card. Without the authorization of the parent the school dentist would refuse treatment. We finally found that it was nearly a full year since she had been in a dental office and then for one visit only.

Probably the most common excuse is the fear of pain. Modern science has given the dentist the means of rendering services with a minimum amount of discomfort. Dental science has progressed to a point where even nervousness, as well as pain, can be definitely controlled. Sometimes with a small cavity where the pain is not going to last for more than a few seconds, it pays us economically to bear that slight pain and get it over with in a hurry. If a dentist is tired, hungry, has patients waiting and you drop in without an appointment and the previous bill is still unpaid, it is understandable that a thorough examination and satisfactory treatment cannot be given. The student should realize that it is he who suffers. He must be fair to his dentist, treat him as a friend and make him responsible for his mouth health with complete co-operation.

Another excuse is lack of money. Extremely few have offered this excuse and when we realize that proper dental treatment begun in early years

and continued throughout life costs us relatively little, we should be sensible enough to avoid the dental wrecks that do cost money. The control of dental disease is by far the most economical way.

Nine out of ten who have skin rash or pimples have poor teeth. They eat chocolate bars, chocolates and soft drinks and candy. School cafeterias sell approximately eighty percent more chocolate drink than plain whole milk and the cost of the latter is less.

Our heredity has some influence, but it is difficult to measure. The racial characteristics, in general, have shown that the Northern Italian, Pole, Swede, Ukrainian and Greek have better teeth than those descended from the British Isles. People from these nations probably because of the food, exercise, sunshine and fresh air apparently, transmit some degree of immunity.

Absentees, or those who are away from school more than would seem normal, invariably have presented poor mouth conditions. The students in a class where they are all repeaters, or those in preparatory classes, have particularly bad mouth conditions. In general, senior students have better mouths. I can only draw general conclusions, but it would seem that there are several reasons for this. The poorer students have been weeded out. Only those are found in senior classes that have that intelligence necessary for graduation and they would seem to be more careful about their health. It is possible that those students because their teeth were developing in the depression years had less money available for candy, gum and soft drinks. Definitely I believe that there is an increasing valuation in senior grades of the importance of good mouths. It is a sign of the responsibility being transferred instead of being shared with the parents.

A visit to a school lunch room will show in general, sandwiches, mostly white bread, cakes, cookies, biscuits, doughnuts, all predominantly carbohydrate food material. It is my belief that carbohydrate left in the

mouth for long periods of time is an active factor in dental caries. If the student would finish his meal with a raw carrot, a piece of crisp raw cabbage, raw turnip, apple or celery, he would not only get a better diet but this would also facilitate the cleansing of the mouth. If the mouth were flushed thoroughly after lunch, conditions might be better.

I have found some very beautiful work done by careful conscientious operators. Some restorations have reproduced with perfect exactness of detail the lost human tissues. I have found replacements for lost teeth which are much better physiological machinery than no replacement and drifted misplaced teeth.

Statistics from the Armed Forces show that the chief cause for rejection has been dental defects. A concerted effort should be made by the dentist, the health teacher, nurse and medical officer of health to

fit our senior students for the battle of life whether it be with the Armed Forces or in Civil occupations. Of prime importance to the men in the R.C.A.F. is the condition of their teeth. An insignificant cavity unnoticeable at ground level may ache at 20,000 feet perhaps because of the atmospheric pressure and intense cold. In a dive bomber the altitude and quick zooming up throws the blood from the head causing a black out. That blood change drains the pulp of the tooth and often the nerve dies in a tooth that is inflamed because of a cavity. Our youth are in training to accept their share of life's responsibilities. We should help them to appreciate the value of health. Health is important.

The control of dental disease with prevention in mind will result in definite benefits for future generations.

86 Bloor Street, West.

Schoolmaster Abroad

QUESTION:

"DOCTOR, DO YOU GUARANTEE YOUR PLATES?"

Editorial Comment: The above question is frequently asked by patients in a dental office. Of course the answer is "No, we do not guarantee our work". However, this is not enough and a clear understanding of this problem is essential to the successful practice of dentistry.

The following article offers a fine solution of this problem. It is condensed from the Journal of the Michigan State Dental Assoc., per Dentistry a Digest of Practice and was written by Dr. John C. Foulk.

There is an old saying that a denture that is not paid for is a denture that

doesn't fit. It does not necessarily follow that one that is paid for does fit, for we all recall making dentures over although they have been paid for. Obviously there is more to the problem than the strict cash basis. Many patients expect and deserve services on a credit basis.

What is most important is the patient's attitude? Why does he ask for a guarantee? This does not call for his condemnation at all, but it does call for analysis and classification.

1. If the patient is the type who is worried because of a sense of helplessness due to the loss of nature's masticating equipment, or if he is apprehensive due to the lack of good aesthetics in his friend's artificial dentures, plainly it is to our advantage to

recognize this because the cure is simply reassurance and a convincing brief description of what modern methods can accomplish in reliable and ethical professional hands."

2. If our patient happens to be so unfortunate as to have friends who possess relatively unsuccessful dentures or if his friends are rather bitter and condemning in their attitude toward their dentures and the man who made them, then he is, at least, more mentally honest than unreasonable in his request for a guarantee of satisfaction. This patient deserves a kindly and thorough explanation and description of the various kinds of ridges and mouth conditions that contribute to the comfort and satisfaction to be had from dentures. We owe it to the patient to use actual duplicate casts which the hands can feel and the eyes see, and to use simple non-technical language. If the story is told accurately and simply enough the lesson is obvious to him that his mouth conditions are as peculiarly his own as are his external features by which his friends recognize him.

Some people have a chip on their shoulders, and defy you to fit them satisfactorily. They have made up their minds that they will not pay for a denture that kicks up like Mrs. So-and So's, or is always making sore places (regardless of what foods are eaten, or whether or not the denture is kept clean); or one that does not permit its owner to eat apples and corn off the cob like So-and-So's. These people are unappreciative of the gap we are bridging between nature's own and the edentulous state—the true light the prosthodontist deserves to be viewed in—and they should be charged a fee (cash in advance) commensurate with the case, the grief, and

the unfavourable advertising probably inherited with the case. Then too, it is a wise dentist who knows when to refuse to serve certain people under certain conditions.

Our dentures would be more satisfactorily sold, constructed, worn and paid for if we would remember some of the simple but cardinal points of salesmanship i.e., establish values, then quote definite fees with definite arrangements for paying same. The patient or customer deserves certain information before he could be expected to buy any service or product. The denture patient is no exception, and if the dentist values his future peace of mind he will tell each prospective plate patient to the best of his ability:

1. What the case will look like.
2. What it will feel like.
3. What it will do for them.
4. How long it will last.
5. What it will cost.
6. Exactly how the cost is to be met.
7. To what extent the final satisfaction and success of the case depends on the patient's own understanding and efforts, and co-operation.

In connection with point number 7, it is well to remember that the explanation of the limitation of the case be told before the case is started. This impresses the patient as pure and simple logic, in other words a part of the diagnosis of the conditions as they exist. Whereas exactly the same words of explanation given after the case is constructed may sound to the patient like an excuse for a shortcoming in construction.

If the above points are told honestly and accurately before the case is started, it will clear away a lot of clouds attending denture work.

You cannot alter facts, but you can alter your way of looking at them.—Alfred Adler.

The Forum

• FATIGUE

by ARLIE V. BOCK, M.D., HENRY K. OLIVER,
Professor of Hygiene, Harvard University

*Condensed from Transactions of College of Physicians
of Philadelphia*

SEVENTY years ago Weir Mitchell was alarmed because of the over-taxed nervous systems of certain classes of Americans, chiefly of the crowded portions along the Atlantic seaboard. "If the strictures I have to make applied throughout the land—to Oregon as to New England, to the farmer as to the business man, to the women of the artisan class as to those socially above them—then indeed I should cry, 'God help us and those that are to come after us!'" Today I fear Mitchell's strictures would apply from coast to coast and few indeed have paused to consider the causes of the harvest we are now reaping.

The term "fatigue" means all things to all men. Its significance ranges all the way from metaphysical concepts to the realm of stark reality. None of us is free for long from some of its manifestations. If anything is certain, it is that we have no drug, no vitamin, no simple panacea to offer the nation or our patients concerning the problem of fatigue.

As doctors, it is true that we are concerned with problems of nutrition, hours spent at work, and nature of the work performed, but in the long run we presume that psychological and sociological factors are the elements most concerned in production of the fatigue from which the nation in general suffers.

Fatigue is a common product of various organic diseases, of undernutri-

tion, of lack of physical conditioning, but in its most general forms appears to be a physiological disturbance not necessarily accompanied by organic changes. If long continued it may lead to organic disease and forms, as we now believe, the background upon which many acute and some chronic ailments of the race are planted.

The tendency too often is to think in terms of the specific derangement instead of the derangement plus the person who is suffering. An over-all look at the patient as a person—including his way of living, his family, his problems, his anxieties, the pressures under which his life is spent—provides the main source of our clinical knowledge of what fatigue is and the effects it may produce in human beings.

Aside from a category of events over which we appear to have little control, such as cancer, leukemia, the aging process, gall stones, epidemic diseases, etc., I find it difficult indeed to separate the rest from having a direct relation to the way of life of the individual.

Breakdown results, called fatigue by all of us, which may have no other expression than inability of the person to carry on the day's work, or may provide the soil for that vast variety of intangible symptoms brought to the attention of doctors every day, or may crystallize in such states as hyperthyroidism, many cases of hypertension, ocular neurosis, duodenal ulcer, ulcerative colitis, chronic indigestion, dermatitis, so-called sinusitis, backache, often repeated respiratory infections, rheumatoid arthritis, simulation of

bowel obstruction, frequent and varied types of cardiac disorder, etc.

At the present time there are no adequate physiological tests by which this type of fatigue may be measured. The prescription reflex so highly developed by doctors should be controlled, for the most part, by a very long latent period. In its stead should come understanding of the pressures under which the patient lives his life. What are his fears, anxieties, insecurities? Remorse, lack of independence, failure to achieve or have achievements recognized, unhappy family life, the whole train of events leading to worry and unhappiness—understanding of these is the prime concern of the doctor, the educator, the economist, the industrialist, and the government expert.

With offices equipped with typewriters, filing systems, telephones; with automobiles and aeroplanes at our disposal, the pace of living has forged onward, but the basic qualities of our nervous system remain unchanged. To possess an automobile many families deprive themselves of home comforts and even food that would otherwise be available. Home in general is not what it was one or two generations ago. The nightly jam at movie theatres and other public resorts means rest and enjoyment for some people, but for many it reflects an unsuccessful escape from the trials and burdens of the day. Thrift has gone, social security has come; labour, not business, is in the saddle.

We must, however, broaden our vision with reference to one condition after another. For example, congestive failure in a patient with rheumatic heart disease may occur not primarily due to structural changes of heart valves or to the activation of rheumatic fever, but to a wearing down process of the whole organism through worry. Not a few cases of angina pectoris are better treated by removing causes of fear than to depend upon the use of nitroglycerine and a restricted life. Extraordinary cases of dermatitis are

going from one dermatologist to another for want of understanding of the role played by problems of living, as Stokes has pointed out. Many symptoms assigned to conditions in the nose, sinuses, and throat are made worse rather than better by operative procedures.

In their paper dealing with 1500 cases of recurrent peptic ulcer, Brown and Dolkart (1) concluded that "functional nervousness including fatigue and anxiety, was by far the greatest delectable cause of recurrence," and in many cases that the same causes might be responsible for the original ulcer. They say, "treat first the patient, second the bowel, and last the ulcer."

In view of our ignorance of many matters, it is certain that we as physicians must learn more about the personality structures of our patients if we are to deal adequately with the vast majority of complaints they bring to us. It is to be hoped that the time will come when we may classify people into groups with reference both to mental and physical characteristics as we now have classifications for disease groups. Strangely enough we seem to know more about man when he is ill than when he is well. It is fair to suppose that if this paradox were reversed the welfare of the race might be greatly improved.

Those who are experts at worry become the most fatigued. Next in line are those who are dissatisfied and unhappy, and last a large group swamped by the dull and dreary grind of daily tasks. We are quick to recognize shell shock in the soldier and sailor. We seem loath to recognize the same or analogous pictures in our patients when they follow from less dramatic, more insidious factors, slowly but surely at work over the months and years. Some of these influences we can stop, some we can modify, and for some we can teach acceptance.

If we look for causes of unhappiness, using this term in a broad sense, and do what we can to remove them, we

shall have done much to relieve fatigue.

• THE RELATION OF DENTISTRY TO CLINICAL MEDICINE

J. VARDEMAN BELL, A.B., M.D.

Director of Medical Service, General Hospital; Associate in Medicine, University of Kansas School of Medicine, Kansas City, Mo.

Condensed from J. of Missouri State D. Assoc. Oct., 1942.

THERE is a direct relationship between dentistry and clinical medicine. Therefore, closer co-operation between the two would work to the advantage of both the patient and the attending physician or dentist. Such co-operation depends on the integration of the sciences of medical and dental education, together with mutual understanding of the problems common to both professions.

The medical profession, in general, does not place sufficient emphasis on oral lesions, and on the vital part the mouth plays in the matter of general health. Far too little is known of the refinements of dental diagnosis by the average physician.

In the instance of dental radiographic interpretation, many physicians can identify gross change, but the recognition of slight change, which too is important, can be made only by men of considerable training and experience. The full significance, for example, of pericoronal infection in distinction to periapical infection is not fully appreciated by the average physician.

The dentist should recognize that his effort is based on the biologic sciences, and that oral manifestations are probably but symptoms indicating a disordered system. A knowledge of the fundamentals of systemic disease, and particularly of the oral manifestations

of such disease, is a necessary part of dental education. The dentist should look at the patient first, and then in the mouth.

It is not unusual for the patient to consult the dentist regarding oral disturbances which are secondary to systemic disease. It is obligatory on the part of the dentist that he recognize the presence of such systemic disease. The dentist of tomorrow will be required to know the pathogenesis, symptomatology, and diagnosis of the more common diseases, that he may not only intelligently consult with the physician but also safeguard the general health of his patient.

Today many physicians and dentists fail to appreciate the fact that systemic disease may result in oral manifestations. Oral sepsis was, until recently, considered the only oral problem of common interest. It is not enough that the dentist be an ingenious technician; he must also possess knowledge of the biologic sciences. He must know that oral manifestations may result, for example, from metabolic and endocrine disturbances, from blood dyscrasies, and from dietary deficiencies. He should be able to recognize the "bleeding mouth" of thrombocytopenia, the tissue changes and deficiencies of pernicious anaemia, the avitaminosis of riboflavin or ascorbic acid deficiency, and the periodontal changes of pregnancy.

A closer relation between dentistry and clinical medicine can be accomplished. Many of us have caught the idea, and discussions between dentists and physicians are becoming more frequent. The improvement has been slow indeed, but will be accelerated by the need, once that need is generally recognized.

"The value of dental services to a patient is practically unlimited and the benefits derived from it by the patient cannot be measured in dollars and cents."—Ritter Manual.

If a man will begin with certainties, he shall end in doubts; but if he will be content to begin with doubts, he shall end in certainties.—Sir Francis Bacon.

• MOUTH INFECTION

by EARLE H. THOMAS in *Jour. of A.D.A.*
Aug. 1943.

Excerpts from "Mouth Infection in Industrial Workers".

IN 1925, Dr. Mayo said, "It is now estimated that about 88 per cent of all deaths, except those due to accidents, are the result of infection."

Dr. Mayo's assertion of the widespread effects of mouth infection and its high incidence may seem at first thought, fantastic. When one realizes, however, that such disease may have associated with it not only innumerable harmless bacteria, but also a majority of the most pathogenic organisms known to the bacteriologist, and that the blood supplying the mouth subsequently flows to all parts of the body, one should be able to visualize that, as long as mouth infection remains uncared for, the dangerous germs and their poisons are slowly, continuously and insidiously seeping through it to every cell in the body.

Thus, it becomes evident that disease of any tissue of the body can be caused by mouth infection. Sometimes, the direct result may be an acute flare-up of infection in some joint or organ, but more often the result is slow, gradual and accumulative degeneration of each tiny cell, resulting in general physical and mental changes, changes that cannot be reversed once they have occurred. Such changes also lower tissue resistance to other infections and increase susceptibility to other pathologic conditions. Thus, the indirect effects of mouth infection may be far more serious than the direct effects.

Chronic diseases of the kidneys, heart and blood vessels, including high blood pressure, cause more deaths than any other comparable diseases. Of all deaths in Illinois in 1941, their total was approximately 53 per cent. Disease of these structures seldom occurs suddenly. For example, when one reads of a person in apparent good health "dropping dead" from heart

disease, though the failure of the heart was sudden, the cause of the failure was repeated slight or severe infections or the slow, continuous absorption of the products of infection. There is an active substance in the pituitary gland which has a detectable action influencing the tissues of the body if it is present in the ratio of 1 part in 30,000,000,000. It is very likely, therefore, that bacterial poisons must be in the blood stream in large proportions before they can cause serious disease?

In this discussion of the serious results of absorption in infection it should not be inferred that all infection originates in the mouth. Toxins may also be absorbed from the tonsils, sinuses, gall-bladder or any other place that harbours chronic infection. It is claimed, however, that the mouth is the most common and most prolific source.

Chronic infection may remain long after teeth have been removed because when a tooth is diseased, the bone adjoining it is also diseased, and simply removing the tooth does not remove this diseased bone.

The virulence of the bacteria in a particular region, the kind of poisons that they inject into the system and the resistance of the patient to these particular poisons, rather than the extent of the disease area, are the main and ever-changing factors in determining the seriousness of the infection present. We find, therefore, that one small region of mouth infection, so small that it is likely to be ignored, may be many times more dangerous than a much larger region of infection elsewhere in the same mouth.

Another misconception is the widespread impression that abscessed and pulpless teeth are the only source of mouth infection causing systemic infection and that gum infection including so-called pyorrhea can be ignored; whereas, in my experience, gum infection is as common a source, if not a commoner one.

The mouth examination, therefore, must include all the gum tissue around each individual tooth.

• SULPHONAMIDES IN DENTISTRY

by F. D. OSTRANDER, D.D.S., M.S.,
Ann Arbor, Mich.

Summary of paper in Jour. of A.D.A. Dec. 1, 1943.

1. The use of the sulphonamides internally in extensive infections of dental origin is a firmly established procedure. The drug of choice and the dosage will depend on the type and severity of infection. In most cases, the medication should be carried on in cooperation with the patient's physician because of the toxicity of the sulphonamides.

2. Present evidence indicates that patients with valvular cardiac involvements should be premedicated with a sulphonamide before extractions as a prophylaxis against subacute bacterial endocarditis.

3. A majority of reports indicate that topical application of the sulphonamides is valuable in the infected or potentially infected extraction socket. Large quantities are not indicated and the question of its use following the average uncomplicated extraction needs further clarification.

4. Topical application of the sulphonamides is indicated in contaminated wounds in and about the mouth, including war wounds and those received in civilian accidents.

5. Topical application may be of value in localized subacute or acute infections about the mouth.

6. Sulphonamide therapy in root-canal and periapical involvements is still in the experimental stage. Further work is necessary to determine whether it is superior to establish procedures.

7. Most attempts to use the sulphonamides in periodontal involvements have been disappointing. Further careful study seems desirable.

8. In no case is the use of a sulphonamide a substitute for careful

operative, surgical or aseptic technique, or for adequate postoperative care.

9. No phase of sulphonamide therapy should be considered as a closed subject. Further investigation of existing compounds and the introduction of new sulphonamides may change present theories and practices at any time.

• THE ADMINISTRATION OF PENTOTHAL SODIUM IN SPECIALIZED OFFICE PRACTICE IN ORAL SURGERY

by BERTO A. OLSON, D.D.S., Hollywood,
Calif.

*Summary of paper in Jour. of Oral Surg.
July, 1943*

1. To date, we have operated in 8,203 cases under pentothal sodium in our office..

2. Only a trained anaesthetist should administer pentothal sodium.

3. An adequate airway must be maintained at all times.

4. It is our belief that a 2 per cent solution meets anaesthetic needs in the field of oral surgery.

5. Mucus and blood must be kept out of the throat by constant use of an aspirator and by changing the throat packs.

6. Pentothal sodium must be administered slowly and in intermittent dosages.

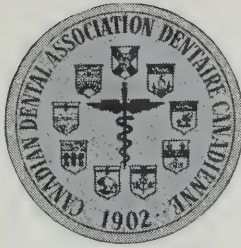
7. Children under the age of 12 should not be given this anaesthetic.

8. The anaesthetic should not be forced, but should be supplemented with nitrous oxide-oxygen in the resistive type of case.

9. Pentothal sodium is not contraindicated for the removal of teeth during pregnancy.

10. Most people tolerate the anaesthetic satisfactorily, if it is properly administered.

11. In painful cavity preparations, pentothal sodium analgesia may be used satisfactorily under favourable circumstances, with adequate facilities and proper precautions.



Editor: M. H. GARVIN, Winnipeg
Assistant Editor: T. R. MARSHALL, Toronto

Associate Editors:

PRINCE EDWARD ISLAND:

D. T. Waye, Charlottetown

NOVA SCOTIA:

S. G. Ritchie, Halifax

NEW BRUNSWICK:

W. C. Carruthers, Saint John

QUEBEC:

E. M. Laurin, Montreal

ONTARIO:

T. R. Marshall, Toronto

MANITOBA:

J. F. Morrison, Winnipeg

SASKATCHEWAN:

F. C. Harwood, Moose Jaw

ALBERTA:

John Clay, Calgary

BRITISH COLUMBIA:

H. M. Cline, Vancouver

Dental Personnel

In an interim report on the "Rehabilitation Survey" presented a short time ago before the Special House of Commons Committee on Reconstruction and Re-establishment, it was stated that the number of additional dentists required in Canada at the present time was 8,089, which was said to represent the result of specific surveys of actual needs. The number of additional dentists required, according to this report, exceeds that of any other professional group. It is not known to us how this figure was arrived at but the problem demands some very careful consideration by dentists throughout Canada.

In the first place it must be recognized that the *need* for dental service does not represent the *demand* for such service. If dental service, at state expense, were offered to all the people of our land tomorrow, a small fraction would avail themselves of this service tomorrow, or the day after tomorrow, or a year from tomorrow. Dental service can be made compulsory for children but not for adults, and a great educational campaign will have to be inaugurated before the adult population of Canada will take the question of dental health as seriously as they should, and demand the services of some eight or nine thousand more dentists. In other words, we would have three times as many dentists as we have at present, without a corresponding increased appreciation of dental services.

In the second place, granting that we do need increased personnel to cope with the dental problems of Canadian citizens efficiently, let us examine the methods by which such a goal should be reached. At present, our schools

cannot turn out many more graduates than will take care of the retirements and deaths in the profession and to allow for some increase due to a moderate increase in population. To take care of a large influx of population our schools would have to be enlarged in order to give the type of service we are giving now. To undertake this new government scheme all of our schools would have to be enlarged and a number of new ones built. It would take some time to build them and provide competent teaching staffs. It would take another four to six years to turn out graduate dentists, depending on the number of students available who already have pre-dental standing.

The above presents a problem but there are other ways and better ways to approach the difficulty in the first instance, methods by which half as much work again could be done by the personnel we already have, and to the advantage of all concerned. Students are taught in schools to make dentures, solder bridges, cast inlays, bake porcelain, and when they first enter private practice they have time to do these things, so they do them. They acquire the habit and that habit seems to persist to a greater or less degree throughout the lifetime of many dentists. In visiting even prominent dentists throughout Canada, I have been amazed at the number who do all the work connected with making a denture excepting perhaps the processing. Others solder their bridges; many cast their inlays. These are but a few illustrations and if this work were all delegated to technicians, the dentists already practising in Canada could take care of a great many more patients than at present. At conventions, we hear how we may improve our technique, often involving more time and greater expense but not so often do we hear how to reduce overhead and how to render a service in the shortest possible time and at the lowest possible cost.

Then there is the question of the assistant. How many busy dentists there are who do not employ an assistant! How many other leaders in the profession who have but one assistant when they should have at least two! Busy dentists have told me that the reason they do not have an assistant is because they do not want to work that hard when the truth is that they would have to work about half as hard in order to do the same amount of work. A patient of mine told me recently that she had visited a dentist in a Canadian town. None of the dentists in this town had an assistant. This patient was told that the people would not understand if an assistant was employed, that they would think the dentist was putting on airs, and that they would have to pay more for their dental service. It is difficult to imagine this type of reasoning being offered by any professional man, however the problem exists. This article is not being written to show how an assistant may be profitably employed but to urge dentists to consider this problem of employing an assistant more seriously.

There is the further question of the hygienist. There is no doubt that hygienists should be licensed throughout Canada if we are concerned about personnel and about the efficient practice of dentistry; if we care much about the status of dentistry as a profession. Most of the states in the great

Republic to the south of us have legalized this practice. The U. S. Army Dental Corps is employing hygienists. The Royal Air Force in Britain is training girls to undertake the work of the hygienist for members of the Force. These girls could be trained in two years' time and would relieve the dentists of a great deal of prophylactic and educational work, thus permitting him to serve more people. For many reasons I would prefer to call this group "registered dental nurses".

If every dentist had a registered dental nurse, an assistant, a technician, or easy access to a good laboratory, and planned to do nothing that someone else could do just as well for him, our present dental personnel could care for half as many again more people than they are caring for at present. I submit that these problems should be investigated and something done about them before worrying too much about doubling or trebling the number of dentists. If this is not done and the number of dentists is largely increased and following this, effective methods of practice are put into operation, many dentists may well wonder how they are going to be kept busy. To increase the number of dentists too rapidly, faster than the demand warrants, would be suicidal. It is not logical to stress the need but rather should we consider the demand which is an entirely different matter. *It would be infinitely better to approach this problem on an evolutionary basis rather than a revolutionary.*

In the past I have heard all too often about dentistry being a profession and to consider sound business principles, in running a practice, was beneath the dignity of a professional man. This is all downright foolishness. The medical profession is employing and using trained nurses and technicians in a way that could well be emulated by the dental profession.

A dental practice can be run smoothly, efficiently, and profitably to dentist and patient alike. In its action, it can remind one of a modern Rolls Royce engine. A dental practice can be run and many are being run most inefficiently and most unprofitably and one is reminded of a car of thirty years ago. Let us get together and talk these problems over and see if something can be done about them.

M. H. G.

BOOK REVIEW

Supplement to the Dental Treatment of Maxillo-Facial Injuries by W. Kelsey Fry, M.C., M.R.C.S., L.D.S., R.C.S. (Eng.), Consultant Dental Surgeon to the Royal Air Force and to the Ministry of Health; P. Rae Shepherd, L.D.S., R.C.S. (Eng.) and Alan C. McLeod, D.D.S. (Penn.), B.Sc. (Dent.), Toronto, L.D.S., R.C.S. (Eng.), and Gilbert J. Parfitt, M.R.C.S., L.R.C.P., L.D.S., R.C.S. (Eng.), Dental Surgeons, East Grimstead Maxillo-Facial Unit; with Section on Fractures of the Middle Third of the Face by A. H. McIndoe, M.S.,

F.R.C.S., F.A.C.S., Consulting Plastic Surgeon to the Royal Air Force. 494 pages. 106 illustrations. Published by J. B. Lippincott Company, 2083 Guy Street, Medical Arts Building, Montreal, Quebec. Price \$5.50.

The parent book on this subject by the above authors was reviewed in the October, 1943, issue of this Journal. In order to keep the parent book of reasonable size, certain parts of it were condensed. No case histories were included and there were but few photographs. This supplement has been prepared

for those readers who wish to know more of the way the principles and methods have been applied to cases.

Methods used by surgical colleagues have been illustrated. The authors have not hesitated also to illustrate cases in which mistakes were made believing that valuable lessons can be learned in this way. The book is beautifully illustrated, sixteen of which illustrations are in colour.

This book is of no value unless the reader owns the original volume. It has been designed to be read in conjunction with the parent book. At the head of each case history is a reference page number: this refers to the page in the parent volume where principles and methods are described.

The edition is necessarily limited, and the supply available only to subscribers to the parent volume.

•

The Impacted Lower Third Molar

by William E. Durbeck, A.B., D.D.S. 181 pages; 116 illustrations. Published by Dental Items of Interest Publishing Co., Inc., Brooklyn, N.Y., 1943. Price \$5.00.

In this recent publication the author has shown originality and discrimination in the arrangement and presentation of his material. The sequence of the nine chapters are as follows: General Considerations, Clinical examination and preoperative treatment, Anaesthesia, General Roentgen Considerations,

Radiographic examination, Planning the procedure, Technique of Instrumentation, and Postoperative Care. Emphasis is laid on fundamentals, the author stating in the preface that "I am of the opinion that one cannot know *what* to do or *how* to do it unless one understands why such procedures are indicated, and that to perform a specific operation without basic information is not only unintelligent but actually dishonest."

Anatomical considerations include a review of the lymphatic drainage and the pathways for the dissection of pus. Preoperative considerations are both sound and practical. The chapter on anaesthesia is poor, and some of the information therein would appear to be at variance with the findings of the Council on Therapeutics. The section on radiography is well done, as is also the chapter on planning the procedure. Readers who anticipate extensive and detailed instruction on instrumentation will be disappointed, as but 26 pages are devoted to this phase, but, as the author states, "The effectiveness of any selected technique is necessarily dependent upon the operators knowledge as to why that individual technique is the one indicated." Various techniques are evaluated on their merit and without undue emphasis on pet theories. Altogether, the book is a valuable addition to the literature, useful to both the exodontist and the general practitioner.

J. H. Johnson

SUPPLEMENTARY LIST CANADIAN DENTAL CORPS OFFICERS AS OF APRIL 30, 1944

APPOINTMENTS

Rank, Name and Date	Civilian Address
Lieut. (A/Capt.) P. D. Brunet, 10-4-44.	Timmins, Ont.
Lieut. (A/Capt.) S. A. E. Merritt, 15-3-44.	Toronto, Ont.

RETIREMENTS

Rank, Name and Date	Civilian Address
Capt. J. Jolin, 6-4-44.	Waterloo, P.Q.
Capt. H. A. Slade, 17-3-44.	Toronto, Ont.
Capt. W. A. A. Haughton, 8-4-44.	Winnipeg, Man.
Capt. W. T. Waite, 5-4-44.	Sovereign, Sask.

After stumbling around looking for contentment for years, I suddenly learned that you cannot find it by hunting furiously for it. Happiness sneaks in through a door you didn't know you left open.—John Barrymore.

CANADIAN DENTAL ASSOCIATION NEWS

(FROM THE SECRETARY'S OFFICE, MAY 6)

Health Insurance

The Social Security Committee at Ottawa continues to sit at irregular intervals.

The discussions have been entirely concerned, so far this year, with the methods of financing the measure. Administration is said to be the next item up for discussion. In reality little headway has been made by this committee with the exception of one resolution which was passed favouring the contributory principle.

Activity in the Provinces

Last year the Quebec Legislature set up a health insurance commission with wide discretionary powers to study, consult all interested parties, and prepare a plan for the introduction of health insurance. This year, two provinces, namely Saskatchewan and Ontario, have passed legislation respecting the rendering of health services. In studying these Acts, it is quite obvious in some that the implementation is dependent upon financial aid from the Federal Treasury.

Ontario

The Ontario Legislature introduced a bill known as The Municipal Health Services Act which was enacted at the recent session. This Bill has no relationship whatsoever to the Federal Health Insurance Bill. As a matter of fact, it would appear in almost opposition to it.

Health services including medical, obstetrical, hospital, dental, and nursing may be obtained as a whole or in part by any municipality or group of municipalities. For example, a municipality can obtain complete dental services for the whole population in that respective municipality.

The services are obtained by a vote of the residents within the area and the funds are raised by a tax on property, a personal tax, or both.

Parents are liable for payment for dependent children between the ages of 17 and 21.

Any employer may be required to make deductions from the wages of employees.

All monies collected for the purpose are payable to the Provincial Municipal Health Services Board.

The Lieutenant-Governor in Council may provide for making grants to aid needy areas from the consolidated revenue of the province.

Continuance of the plan is dependent upon a favourable vote at the end of a three year period.

Points to be noted

(1) The establishment of a Provincial Board to act between the municipality and the health personnel overcomes the objectionable feature of the Municipal Doctor scheme whereby the municipality bargained directly with the doctor.

(2) It is indicated that the recognized professional organizations will be recognized as the sole bargaining agencies for each professional group.

(3) Whereas the Federal proposal is an overall plan this scheme is a "local option" arrangement.

It is claimed that an attempt is being made to build a foundation by degrees rather than adopt a superstructure first as recommended at Ottawa.

(4) Will municipalities be inclined to vote to tax themselves for these services especially now when they have been reading about the "cheap?" services to be given under the social security plans of the Dominion Government?

People have come to believe that the farther away they can get the taxing done, the less it will affect them individually.

(5) There is no provision in this bill for cooperation with the Federal Government in health Legislation which perhaps indicates antipathy toward the Dominion proposal.

Saskatchewan

During the final sitting of the Saskatchewan Legislature a bill respecting health insurance was introduced and hurriedly given the necessary three readings making it law.

Comparative analysis of this bill with the Federal proposal shows that definite opening has been provided for cooperation with the Federal Government in respect to Health Insurance.

One point to be noted in such legislation is the coercive demand for all information

necessary for the administration of the Act. The public are now becoming accustomed to inquiry into the minute details of their finances, but are they going to allow such inquiry into their physical defects. In the past such matters were considered confidences between the doctor and the patient.

The administration "shall be by a commission" which is to be determined and appointed by the Lieutenant Governor.

The benefits conferred shall be such as to provide for the prevention of disease and for the application of all necessary diagnostic and curative procedures and treatments. The following headings are named:

Special, technical and ancillary services are benefits;

(b) dental benefit;

(c) pharmaceutical benefit;

(d) hospital benefit;

(e) nursing benefit;

Special, technical and ancillary services are to be included.

Statement is made to the effect that where insufficient professional personnel makes the said benefits impracticable the most urgent are to be considered first and the commission may make such financial adjustments as it deems fit.

According to the wording of the Act, the dentist will certainly take his orders from other than a member of his own profession.

Expense of administration to be paid out of provincial treasury. (Strictly in harmony with the Federal proposal.)

It is stated that the Lieutenant Governor may at any time enter into any agreement respecting health insurance with the Federal Government.

NEWS FROM THE PROVINCES

ALBERTA:

Dental Work for Department of Pensions and National Health

Dr. J. E. Hesson, who is doing the dental work of the Department of Pensions and National Health in the new Belcher Hospital, reports that there is more work ahead of him than for any of the men who are in private practice.

Retirement

Dr. Murray McCaffery has been retired from the Dental Corps and is commencing practice again in Calgary.

Calgary Dental Society

The April meeting of the Calgary Dental Society was held at the Palliser Hotel on April 17. About sixty members, and guests from the Dental Corps, and from various points in Southern Alberta were present.

The purpose of the meeting was to present the retiring President, Dr. E. M. Doyle, with a life membership in the Calgary Dental Society. The presentation address was made by Dr. John W. Clay, who on behalf of the Society wished Dr. Doyle many more years of active practice and health and happiness. In addition to a certificate of Life Membership, a suitably engraved silver tray

and a pipe were given to Dr. Doyle as a token of the esteem in which he is held by the dentists of Southern Alberta.

Dr. Doyle graduated from the old Royal College of Dental Surgeons in 1899 and after a short period of practice in Brantford, came to Calgary in the North West Territories in 1904, where he has carried on practice for the past forty years. In 1905, on the formation of the Province of Alberta, he was one of the founders of the Alberta Dental Association and was a member of the first Board of Directors. In 1906 he was an Alberta representative for the formation of the Dominion Dental Council. He has been president of both these organizations and twice president of the Western Canada Dental Society. In short Dr. Doyle is one of the men who made Alberta dental history.

The incoming vice-president Dr. Baden Powell, was chairman of the meeting, and read telegrams and letters of congratulation from various dental organizations and dental friends. Dr. A. E. Auger of Stettler and Dr. H. E. Beddingfield of High River who have practised in Alberta for about the same length of time as Dr. Doyle, and came to Calgary for the meeting, added their good wishes for the guest of the evening.

As one of the speakers said "In forty

years of practice in Calgary no one has known of Dr. Doyle ever doing an unkind or dishonest thing to the fellow members of his profession". It is an example to be followed.

In reply Dr. Doyle expressed his sincere thanks for the gifts and good wishes of his colleagues, and commented on the fine spirit of good will and friendship which exists among the dentists of Southern Alberta.

Edmonton Dental Society

This Society met on May 2. Dr. Webber, President, was in the chair. Col. T. R. Drewry of the Canadian Dental Corps gave a very interesting address, relative to conditions in the C.D.C. and general experiences during his three years in England.

A motion of thanks was tendered by Dr. H. MacLean.

The following officers were elected for the year 1944-45:

President—Dr. C. H. Lipsey.

Vice-President—Dr. J. D. Hawkins.

Sec. Treas.—Dr. J. C. Ward.

Social Convener—Dr. P. J. Kendal.

Reference was made by Dr. Gerneroy, to the interesting and valuable meetings throughout the year, and the very courteous manner in which they were handled by the President, Dr. Webber.

The books were audited, and a report brought in by Dr. S. Fraser. Expenditures had been greater in the past year by \$114.51 owing to increased number of meetings, etc.

Dr. Hawkins, the retiring Secretary, was again commended for his efficiency.

A meeting for Col. Cameron, C.D.C. is being arranged, if it is possible for him to remain, while he is attending University Convocation, as Convocation Speaker.

The usual summer golf meetings are being arranged.

Members present were thirty-six.

A special meeting of the Edmonton Dental Society was held at the McDonald Hotel on May 16 to honour Colonel Geo. Cameron of the Canadian Dental Corps and convocation speaker at the 34th annual graduation exercises of the University of Alberta. Dr. C. Lipsey, President, was in the chair. Dr. Scott Hamilton introduced Dr. A. Rankin,

Dean of Medicine, University of Alberta as well as Colonel Cameron.

Colonel Cameron referred to the excellent relationship between the Canadian Dental Corps and the American Dental Corps as well as the kindest cooperation existing between organized dentistry and the Canadian Dental Corps.

He elaborated to some length on the organization of the Canadian Dental Corps from its incipency to the present fine organization, how it is serving the three forces, army, navy and air, both at home and abroad.

Emphasis was placed on the functions of the mobile dental clinics that are fully equipped, also having light, heat, and power, which follow the troops, and are now in Italy, Sicily, and North Africa serving the three forces.

Colonel Cameron referred to the Social Health Scheme and the work the Canadian Dental Association was doing on behalf of the profession and the public. He stressed the importance of supporting the national organization through our provincial and local societies.

The appreciation of the Society to Colonel Cameron was voiced by the President.

Dental Graduates

The following students were graduated May 16, 1944, from the Dental Department, University of Alberta: R. H. Blaquiere; W. A. Cotter; R. M. Duncan; A. D. Fee; A. A. Fraser; J. Jackson; L. E. Mallin; A. N. McDougall; S. Stein; T. O. Walhovd; D. H. Warren; N. J. West; S. L. Yaremchuk.

Winnipeg Dental Society

The next to the last of the annual series of meetings of the Winnipeg Dental Society which takes place in the interval between the closing of the golf season and the opening of the next was a two man occasion on the subject of practice building.

Dr. Gordon Elsey spoke on "Patient Cooperation" and Dr. I. Wolch on "Bite Wings as an aid to Diagnosis". D. Wolch's talk and lantern slides were a part of the program at the February Minnesota meeting and made an excellent supplement to Dr. Elsey's address. After listening to Dr. Elsey

one realized the reason for his large and successful practice, and the thought came that this paper should be printed in our Journal. We understand that it will be and this is a warning to all who did not hear him not to miss reading it when it appears.

Manitoba Dental Association

Since our annual registration dues were raised from ten to seventeen dollars, we have mentioned that a larger percentage of dues have been paid as at the 1st of April than before the increase. This year has established a record in that all dues are paid. We think this is largely due to the realization of the necessity to adequately support the Canadian Dental Association which has the welfare of all licensed dentists of the Dominion as its chief concern.

Time marches on. Another of our professional brothers who has been in practice in Winnipeg since 1900, Dr. C. P. Banning, has announced that he has retired from practice.

For many years Dr. Banning took an active interest in organized dentistry being Secretary of the Manitoba Dental Association. He is also a past president of the Winnipeg Dental Society.

ONTARIO:

Convention of the Ontario Dental Association

The seventy-seventh annual convention of the Ontario Dental Association has come and gone. A well balanced program was arranged under the supervision of the president Dr. J. H. Duff and the Secretary Dr. E. A. Grant, and a record attendance was on hand to make the occasion a memorable one. Dr. H. S. Thomson and Dr. W. B. Amy were elected honorary life members of the Association. Considerable interest centred around discussions of mooted health legislation. Dr. Arnold D. Mason, Dean of the Faculty of Dentistry, University of Toronto was presented with a portrait by the Royal College of Dental Surgeons. Hon. Dr. R. P. Vivian, Minister of Health in Ontario was guest speaker at a Public Health Luncheon. Many excellent lectures and papers were presented dealing with diagnostic, technical and treatment problems; those relating

to maxillo facial surgery and jaw fractures were particularly popular. And interspersed throughout proceedings there was time out for fun and enjoyable entertainment. Such was the plan of the program in general.

On Sunday evening, prior to the opening of the convention, members with their wives and friends began to arrive. There was the usual musical evening arranged in the Ball Room of the Royal York Hotel for the home coming. This function has become a unique feature of the convention as the ever increasing attendance would indicate. More than five hundred were present this year to hear a program of choir music by the "Bell Singers". This is a ladies' choir of forty voices and is directed by Mr. Leslie R. Bell. For several years now Dr. Walter Dawson and his committee have been directing this Sunday evening event but on no occasion has a more delightful or appropriate program been presented. The usual refreshments following the entertainment gave everyone a chance to renew friendships and make new ones.

Registration and table demonstrations was the order of the day for Monday morning. Including guests and students there were 930 dentists registered; 169 Exhibitors, 45 Dental Nurses, 130 Dental Assistants, 81 ladies from out of town and 97 Toronto ladies—in all 1452 persons.

There were some fifty odd table clinics arranged and these were under the sponsorship of Dr. Harold Skilling, president of the Toronto Academy of Dentistry. Dr. Skilling must have given much time and effort to the organization of these demonstrations as many new phases of dental practice were presented by new instructors. Dentists, Dental Nurses and Assistants as well as representatives of dental manufacturers contributed to the success of this opening feature of the Convention.

Dr. John H. Duff, president of the Association conducted formal opening proceedings on Monday afternoon. Dr. Duff during his term of office, has proved himself a capable leader, even tempered, unbiased in his judgments and concerned with the progress of dentistry as a health profession. In his address he said, "What of the future of Dentistry? What part should dentistry play in the vast health program? In the past altogether too much stress has been placed

on restorative dentistry. It is like locking the stable door after the horse has been stolen. Organized dentistry is not supporting legislation merely to set up large scale systems of treatment, but is proposing a definite plan of approach toward the controlling of dental disease. Emphasis in the future must be placed upon control and prevention. This must be carried out mainly beginning with children. If this stand is not taken, dentistry may become more and more regarded as a *mechanical* adjunct to real health services whereas if the approach is made by maintaining positive mouth health throughout life, dentistry will take up its rightful position among the health professions." Dr. Duff continued by making some splendid suggestions: 1. A stepped up research program for dental problems with government financial support. 2. Improved facilities for dental education and post graduate study and encouragement of dentists to keep up to date by participating in these courses. 3. Education of our members in a better understanding of the place dentistry must occupy as a health profession and 4. (quote) "I would commend to all dentists of Canada the work of the Canadian Dental Association. I believe that in this time of stress and rumors of changes in our social structure, that we are extremely fortunate in having a strong National Body. The officers of the Association are a level-headed group and I believe our affairs are in good hands. They are working in your interests and mine, but they are working under a severe handicap for lack of finances. *Let us raise our fees to the Canadian Dental Association so that this handicap will be eliminated.* Our professional aims will be won only by unified action. I would strongly urge full support of all dentists with the National Body."

In reply to Dr. Duff's question "What of the future of dentistry?" Dr. Harvey W. Reid, Vice-president of the Canadian Dental Association, said "We are going wherever the profession of dentistry leads. It is for each member of the profession to live up to his and her responsibility." He concluded by transposing a quotation from Abraham Lincoln—Mr. Lincoln said "I like to see a man proud of the place in which he lives and a man so live that his place is proud of him." Dr. Reid continued "I like to see a man proud of the profession in which he

serves and a man so serve that his profession is proud of him."

It was very evident from the interest in the addresses given by Dr. Don. W. Gullett, secretary of the Canadian Dental Association and Brigadier F. M. Lot, Director-General of the Canadian Dental Corps, that these were two such men as Dr. Reid had in mind. We might add the names of Dr. Carl Waldron of the University of Minnesota, Dr. Edward Ball of Cincinnati and Dr. Maurice Stern of New York, convention essayists. These three men distinguished for other reasons were authorities in their respective fields and greatly appreciated in their presentations. Dr. Waldron is a former Canadian who has made for himself an international reputation as a surgeon; he was especially welcome back home to Toronto.

From the interest displayed in the various lecture clinics conducted each year, one is almost inclined to speak of these as the backbone of the convention. There were twenty of these presented by the following lecturers: Dr. J. P. Gleason of Rochester, N.Y., Dr. M. N. Stern, Dr. E. L. Ball, Dr. C. H. M. Williams, Dr. James Coupland, Dr. C. W. Waldron, Dr. Clyde Nelson, Dr. E. Schmitt, Lieut. Col. Gerald Franklin, Lieut. Col. W. J. Gibson, and Major J. C. Foote, Dr. J. N. Stewart, Dr. J. F. Giffen, Dr. L. E. MacLachlan, Dr. C. H. Moses, Dr. S. A. MacGregor, Dr. G. A. Morgan, Dr. I. H. Ante, Dr. R. G. Ellis, Dr. P. G. Anderson, and Dr. J. H. Johnson. All of these men are leaders in their particular specialty and no one could listen to any of them and see their work without gaining considerable knowledge to take home and apply in every day practice.

The regular luncheon programs were of especial interest this year. One was tendered in honour of Dean Arnold D. Mason and the other was arranged by the Dental Public Health Committee to hear the Hon. Dr. R. P. Vivian, Ontario's Minister of Health.

One of the high lights of the convention was the presentation of a portrait in oil to Dean Mason, painted by the late Mr. Curtis Williamson. Dr. Harold Campbell, president of the Royal College of Dental Surgeons made the presentation after calling on Mrs. J. H. Duff to present Mrs. Mason with a bouquet of roses. Dr. Campbell, an intimate personal friend, in well chosen words, spoke

of Dean Mason's achievements as a dentist, as a citizen and as a leader in our profession and referred to him as "A man of wonderful friendships." In accepting the portrait, Dean Mason was visibly overcome by the tribute but proceeded to show his appreciation by reminding his colleagues that the profession of dentistry has progressed through the years by team work, that he believed individuality of action will be left for professional development because undue regimentation would kill off the type of man we want, and the public want, in our profession. Economics is not the entire consideration in dental service and even so, he believed it could be given to the people at less cost in the private office than in a public clinic. In concluding his remarks Dean Mason turned to President Cody of the University of Toronto and presented the portrait to the University. Dr. Cody spoke briefly in eulogy and said to Dean Mason, "It will hang with those stalwarts in dentistry who have tried to forward dental science."

Honourable Dr. Vivian impressed his hearers by his statesman-like and sincere discussion of Ontario's health problems with particular reference to dentistry. He said all health professions are on the threshold of a new phase in their career; they will have to accommodate themselves to changing conditions but they themselves must lead the thinking. Dentistry will occupy a prominent place in your government's health proposals, but we are not ready to provide it for all. Special emphasis will be placed on preventive dentistry which will include Dental Public Health education and early regular care for children. The dentists and members of other health professions must be given adequate remuneration for their services. The professions themselves must give guidance, opinion and leadership in promoting policy not only in their own interests but in the interest of the public at large. With this in mind he proceeded to request the Faculty of Dentistry to give particular attention to developing increased facilities for teaching dentistry for children; and to call on members of the Ontario Dental Association to assist in disseminating dental health information to the public in their own communities. Dr. Vivian's address was well received; it seemed to be an acknowledgment of profes-

sional co-operation he has received in the past and an invitation for further assistance in the future.

No convention would be a success without the support and co-operation of the commercial exhibitors. Indeed many dentists attend in no small measure, to see the newer developments in equipment and material. It is the only opportunity many out-of-town men have to see such displays. Patronage of the Ontario Convention by dental dealers and manufacturers has always been liberal and this year has been no exception. Mutual understanding and good will is a great asset to progress and during the exigencies of the last five years certainly the dental trades have won the esteem of the profession.

In the lighter vein several functions were a delightful diversion from the business sessions. The ladies' supper party in the Roof Garden of the hotel, where more than one hundred ladies attended to hear Mrs. Arthur Ellis of the Canadian Red Cross. The president's reception and dinner dance, where more than two hundred couples attended to dine and dance, and to enjoy music and floor show under the direction of Mr. Stanley St. John. Class '24 held its twentieth anniversary party with class members in attendance from all over Canada. Class '23 had another party (becoming an annual event) and report their scholarship fund going ahead fine. Fraternity dinners and other class parties, all helped to round out a much needed bit of fun and relaxation.

Yes the convention is over for another year. The Board of Governors are to be commended for securing such excellent talent and for such complete arrangements. The new officers are: President, Dr. F. L. Williamson, Hamilton; Past president, Dr. J. H. Duff, Toronto; Vice pres., Dr. Frank Martin, Toronto; Secretary, Dr. E. A. Grant, Toronto; and Historian, Dr. G. V. Morton; Board of Governors; Dr. G. V. Fisk, Dr. E. A. Storey, Dr. A. R. Poag, Dr. K. R. Harris, Dr. H. B. Legate and Dr. G. V. Tario. Committee on Benevolence: Dr. R. S. Woollatt, Dr. R. S. Hyde, Dr. John A. Bothwell. Committee on Dental Public Health: Dr.'s R. P. Lowery, Ross Thomas, S. A. MacGregor, H. A. Swales, Charles McLean, and T. R. Marshall.

T.R.M.

Ladies' Auxiliary to the Academy of Dentistry and Canadian Dental Corps

This Auxiliary had a very active year under the able leadership of Mrs. E. T. Guest.

The initial meeting of the year was a tea at the home of Mrs. Stewart Crouch, at which the new members were welcomed.

An interesting book review was held at the Heliconian Club.

A meeting was held at the Art Gallery after which the members reviewed an exhibit of the Town Planning Commission of the City of Toronto.

A luncheon was held at the Alexander Palace at which Major Phyllis Arnoldi, C.W.A.C., spoke.

An afternoon bridge was held at the home of Mrs. E. C. Sadlier.

Members of the Auxiliary entertained their husbands at a dinner at the Granite Club. Dr. Harrison G. Mullett spoke on his experiences in Hong Kong and his repatriation.

The Annual Meeting was held at the King Edward Hotel and after luncheon the following items appeared in the various reports: 26 million cigarettes had been sent to men in the Corps; 742 finished articles had been turned in to the Red Cross by the sewing group; 67 pairs of socks, 8 sweaters and many other articles were knitted by members; nearly \$800.00 had been received from the sale of scrap gold.

The new executive was installed as follows:

Past President—Mrs. E. T. Guest.

President—Mrs. F. L. Dayment.

1st Vice-President—Mrs. Roger Matchett.

2nd Vice-President—Mrs. L. R. Davison.

Treasurer—Mrs. Sidney Milburn.

Secretary—Mrs. Mark Boyes.

Corresponding Secretary—Mrs. H. J. Mullett.

Councillors—Mrs. H. Skilling, Mrs. A. F.

Cooper, Mrs. J. M. Cation, Mrs. John

Trelford, Mrs. Wm. MacIntosh, Mrs.

S. M. Richardson.

Victoria Lapp.

Ontario Dental Nurses' and Assistants' Association

Shortly before Christmas 1943 we shipped a parcel to Kay Newly, Secretary of the British Dental Nurses' Society, London, England, containing Christmas luxuries and com-

forts unobtainable in England during war time, and we asked Kay to share the contents of the box with her dental assistants . . . herewith we give you (in part) a copy of her reply:—

Dear Leta Blaber:—

I was so happy and quite excited when I received your letter dated November 23. You have no idea how thrilling it is to me to realize I have made many new friends in the P.D.K.C. whom I want to thank very very much for sending the lovely box of gifts to the members of our Society.

The box arrived quite safely with everything so beautifully wrapped, and I am taking it along to our next meeting, when the gifts will be distributed by ballot—this, I think, is the fairest way. It will cause much excitement with the London committee, as I have decided to keep the whole thing a secret and give the members a surprise when the meeting is in progress.

Your Bulletin interests me very much, and I think it is a very fine effort on the part of the girls of the O.D.N. & A.A.

You certainly are doing some wonderful War Work. May I say how very much I admire the work of the P.D.K.C. for the forces.

In our London Surgery we conceived a novel way of obtaining knitted garments for the troops. During the Blitz we had many people rush to our waiting room for shelter, and some were highly nervous and excited. I felt something should be done to occupy their minds. I had a large RED SIGN printed, "KNIT FOR THE TROOPS WHILE YOU WAIT". The result was marvellous; my boss thought the idea so good that he now supplies the WOOL, and the idea has been adopted in all of our 17 offices. You can guess how thrilled I was. The Daily Express Newspaper (owned by that great Canadian Lord Beaverbrook) do all the parcelling and dispatching for me—that leaves me only the postage money to find. The idea worked so well with our patients that we now encourage all who use our waiting rooms to KNIT, KNIT and KNIT. We have 1000 members in our Society, about 500 being attached to the London area, and I have taken over the chairmanship of the London Branch. The dental nurses' examinations were held in November. I will send a copy of the

papers showing complete results. I will also send along a complete report of our year's progress in our Society. Another interesting scheme we have adopted is our exchange system of nurses—a girl from North England comes to London and the girl from London goes to North England for a specified time. The experience has proved invaluable.

I think this is all my news for the moment. I hope this reaches you quite safely. Again thanking every member of the P.D.K.C. for their lovely gifts, and looking forward to the day when we meet, and I can shake you by the hand. Here's to VICTORY! MAY IT COME SOON!

Sincerely,
Kay Newly.

•

TORONTO A.A. held their annual election of officers and the lovely candlelight ceremony was conducted by Sergeant Doris Gregory, installing Christine James as President. The war convener reported results from the rummage sale were \$107.00.

•

WINDSOR A.A. have decided to have a chocolate bar shower to send overseas for the P.D.K.C. Mr. Hannah the guest speaker explained a Hospital Insurance plan to the members.

•

LONDON A.A. met at the Hotel London to hear a lecture on Venereal Diseases by Major A. Beattie, V.D. Control Officer for M.D. No. 1. The Coca-Cola Company loaned their sound projector machine and also showed a coloured film regarding their product. We opened our meeting to our friends and the ladies of the Dental Auxiliary.

•

KITCHENER A.A. in April held their annual election of officers, with Ruth Janke elected the President. For the benefit of the new members a complete review of the Convention to be held in May was given by the retiring President, Anne Kirkland. At the May meeting the posters and clinics for the Convention were assembled and discussed and it was decided to hold our June social at the Knotty Pines in Preston.

Irean Checkley Bruce.

Dentist Missionary Going to Aklavik

The United Church of Canada has loaned a dentist missionary to the Church of England in Canada. He is Dr. H. J. Mullett, who was a prisoner of war in Hong Kong and was repatriated on the steamer Gripsholm. He is to go to Aklavik, on the Arctic circle, for the Anglican Church, to treat the teeth of its Eskimo parishioners. After three months there, he is to return to West China, where he formerly served in the United Church hospital.

QUEBEC:

Montreal Dental Club

The Department of Oral Surgery of McGill University was host to the Montreal Dental Club at the Montreal General Hospital on April 21, 1944.

The clinics and demonstrations were given under the direction of Dr. John W. Gerrie, assisted by Drs. Gordon Leahy, C. C. Stewart, anaesthetist, J. E. Pritchard, Gerald Racey, Ray Nowosadko, and Robert Graves.

The program was in the nature of a clinical afternoon with demonstrations going on simultaneously in the main operating theatre under general anaesthesia; in the school clinic operating rooms under local anaesthesia; and in the main clinic room demonstrations were given of interesting cases and appliances used in fracture of the jaws and plastic surgery.

The detailed program was as follows:

2:30 P.M. Drs. Gerrie and Stewart. Dr. Stewart proceeded with a demonstration on Anaesthetics, followed by Dr. Gerrie who performed the following operations:

1. Extraction and Alveolectomy.
2. Cyst of Lower Jaw.
3. Impactions.

3:00 P.M. Dr. Racey's clinic consisted in showing:

1. Alveolectomy.
2. Surgical (flap) removal of a tooth.
3. An Impaction with the Automatic Mallet. All these operations were performed under local anaesthesia.

4:00 P.M. Main clinics.—Patients showing interesting conditions and other exhibits were set up about the Clinic with descriptive literature. Members were asked to circulate and examine and discuss these cases. The following were shown:

(1) *Osteomyelitis of the Mandible* following extraction of a slightly "tender" tooth on October 15. Because of swelling and pain the operation site was curetted three days later. Seen by one of us (Dr. G.) on October 30, when there was a heavy pus discharge; the patient ill showing hectic fever. Admitted S.M.H. when jaw X-rays were negative and chest showed a spotty pneumonia (aspirational from mouth pus?). Placed on intensive sulphathiazol therapy with progressive improvement in the general condition. The mouth condition continued to deteriorate with loosening of the lower anteriors and pus discharged even from the opposite side of the mouth. Successive X-rays showed progressive destruction of the mandible. Placed on high caloric, protein, calcium, phosphorus and vitamin diet with eventual arrest in the progressive nature of the bone destruction. At present he is carrying on his work under these conditions. Several small sequestra have been removed. When considered safe, wide flaps will be laid back, the remaining teeth removed and loose bone "picked" out. *Comment*—This is the usual long course of osteomyelitis of the mandible. Was the curettage three days after extraction advisable? Would it have been advisable to have shortened the course by earlier intervention?

(Case 2) *Early Cancer of the Tongue—Cured*. Patient presented herself seven years ago with moderately large tongue cancer. She was adequately treated with irradiation and by removal of the neck glands on that side. She has had seven years of comparatively comfortable life with no evidence of recurrence.

(Case 3) *Late Cancer of the Tongue—Incurable*. Patient presented himself about 2 months ago with massive involvement of the tongue and neck glands. Can feel the hardness of the tongue with the tip of one's finger. This is the typical cancer "feel". Mutilating extensive surgery with postoperative irradiation was considered the patient's only chance and he decided against this. At present he is carrying on with 75 tablets of aspirin compound with $\frac{1}{2}$ grain of codeine weekly. Prognosis 3 months.

(Case 4) *Extensive Gingivitis Due to Avitaminosis and Disuse Atrophy*. A boy on an obviously deficient diet and with an open

bite presented himself, with a severe, extensive gingivitis believed due to the above two factors. He has been carried on ascorbic acid Mgms. 50 t.i.d. with progressive improvement and an attempt will be made to correct the open bite.

(Case 5, 6 and 7) *Familial Giant Cell Tumours of the Jaws*: Gwen, Joey, and Manny of the Morris family, Kingston. Three of a family of five Jewish children affected with this terrific deformity of the jaws and previously reported by Jones and Thoma as familial multilocular cystic disease of the jaws. The family came into the hands of one of us (Dr. G.) a year and a half ago and operation on Gwen proved the condition to be "Giant Cell Tumour". Gwen has had two operations, Joey one, and Manny will be operated upon this summer. Dr. Pritchard discussed this interesting condition.

(Case 8) *Progressive Necrosis of Both Jaws*: An idiopathic necrosis of the jaw bones began about five years ago. At that time there was a mild indolent, red, gingivitis and three upper teeth on the left side were extracted. Sockets seemed to heal but broke down in 6 weeks and the necrosis became progressively obvious. Admitted to hospital on three occasions and given exhaustive examinations with *no abnormal findings* aside from the necrosis. On one admission the few remaining teeth were carefully removed. Their sockets healed temporarily, broke down again in about 6 weeks and the necrotic process became manifest. Its duration in the lower jaw is about 18 months.

(Case 9) *Ankylosis of the Mandible* following tonsillectomy at 3 years of age. Three operations had been unsuccessful. After the first two the jaw re-ankylosed in the closed position. After the third, a vulcanite prop was placed in the mouth and the jaw re-ankylosed in the open position. She carried on with the jaw ankylosed in an open position—incisors separated $\frac{3}{4}$ inch for some 15 years and absolutely no movement. The ankylosis has been cured by accident and a freak of surgery. One of us (Dr. G.) planned to improve the receding chin by a bilateral step osteotomy and to deal with the ankylosis at a later operation. This was carried out in June 1943. Infection and non-union occurred at the site of the right osteotomy (The side of the ankylosis) and this has functioned as a

"false joint". She opens the jaws adequately and is able to eat apples, bread, etc. The chin will be built out at a later date with costal cartilage or iliac bone.

(Case 10) *Bilateral Fracture of the Mandible with Double Pin* (Stader Roger Anderson) *Fixation*: Struck on the chin by a crow-bar sustaining a fracture at the right angle and the left mental foramen region with wide displacement. Adequate fixation could not be obtained through the teeth in the posterior fragments so a Steinmann pin was drilled through the anterior fragment on April 14 and double pin units placed in the posterior fragments. Fixation will be maintained for at least four weeks.

Demonstrations of Jaw Injuries and Fracture Appliances:—A series of pottery skulls were on demonstration showing most of the common types of jaw fixation as applied to various injuries.

5:00 P.M. *Lecture Theatre in Pathology Building*. Discussion was opened by Dr. Arthur Walsh and Dr. Joe Pritchard, followed by Dr. McCabe and others.

Report by E. M. Laurin.

Montreal Dental Nurses' and Assistants' Association

This Association held a dinner meeting at the "400 Club" on Drummond Street, on April 28, with Mrs. Eric Reddy as guest speaker. Twenty-eight members were present.

A Military Whist party is planned for the next meeting to be held in the Club Rooms at 1414 Drummond Street, June 2. Prizes will be given and several articles will be raffled. Members are invited to bring friends.

Lois J. Rapley.

Mount Royal Dental Society

The annual meeting of this Society was held at the Ritz Carlton Hotel in the form of a joint dinner with the ladies.

The following officers were elected for the year 1944-45:

President—Dr. N. P. Solomon.

Vice-President—Dr. J. Fineberg.

Secretary—Dr. M. Goldenberg.

Treasurer—Dr. M. Simon.

Asst. Secretary—Dr. A. Lapin.

Executive: Doctors A. Mendel, I. Druckman, H. Freedman, M. Levitt and M. Toker.

Montreal Dental Club

This Club held its regular meeting on May 15 in its Club Rooms. The speakers of the evening were Dean A. L. Walsh and Dr. A. G. Racey. The subject discussed was "Dental Caries and Gingival Disorders in Relation to Research". Dr. Walsh spoke on the research problem from the point of view of the increasing needs of further work in this field in association with university teaching as well as with our professional groups and associations. He also cited the approach that had been made in various other parts of the continent to establish centres of dental research.

Dr. Racey gave a general review of the research work that was being carried on in the field of dental caries. This included the questions of: (1) Inherited tendencies. (2) Developmental influences arising from nutritional and endocrine factors. (3) The benefit and dangers of fluorine therapy. (4) The theory of organotherapy. (5) The possible role of saliva in association with other substances found in the oral cavity. (6) Dietary considerations.

Four new members were elected to the membership of the Club: Dr. Gwendelyn W. James, Dr. Matthew Routcky, Dr. T. J. McNally, Dr. J. Rae Carson.

NEW BRUNSWICK:

Saint John Dental Society

At the regular April meeting of the Saint John Dental Society, the courteous offer of Dr. R. E. Lussier, of Montreal, to come to Saint John and present a clinic on Immediate Denture Technique, was most gratefully accepted.

This clinic was presented by Dr. Lussier on April 24 and 25 at the Admiral Beatty Hotel, Saint John, N.B., before a good representation of the local members of the Dental Society.

Dr. Lussier gave complete demonstrations of the technique of impressions, set up, extractions, and insertion of finished dentures.

Following the clinic, a question period was held, in which Drs. F. C. Bonnell, A. J. Coughlan, and J. B. Gosnell took part.

On behalf of the Saint John Dental Society, Dr. J. B. O'Brien, President, extended to Dr. Lussier the sincere and hearty thanks of the Society for his excellent and instructive clinic.

EMPIRE NEWS

GREAT BRITAIN:

Financial Awards for Medical Discoveries

This difficult question arises from time to time, and Mr. Attlee, in the House of Commons, stated "the question of financial rewards . . . has been carefully examined . . . with the conclusion that any such system, even if desirable, could not be administered equitably in practice." The policy of the government was to support medical research in progress and not to offer payment on the basis of results. One daily paper makes the rather caustic comment—"apparently the State delights to honour and enrich those who, like munition makers, provide methods of taking life, but cannot discover any means of rewarding 'equitably' those whose discoveries save thousands of lives."

The White Paper

Reprinted from Guy's Hospital Gazette, March, 1944

The publication of the Government's White Paper marks the opening of the second round of the tussle on a National Health Service.

With its publication we shall have some positive grounds upon which to argue and to make constructive criticism, for these proposals are merely the tentative outlines of a plan designed to ensure "that in the future every man, woman and child can rely on getting all the advice and treatment and care which they may need in matters of personal health" and that no one "must have reason to believe that he can obtain more skilled treatment by obtaining it privately than by seeking it within the new service." These general principles are the very cornerstones of the scheme. No physician, imbued with the humanist sympathies of his profession, can dare to reject them however much he may be in doubt concerning the stones which will rise above them to complete the structure.

In accord with British democratic spirit, the scheme has all the features of a compromise in what is, admittedly, a very delicate situation. The general practitioner still remains to fulfil his very important role of "family adviser". He is at liberty to ignore completely the Government scheme as

before, but there arises a new creation—the general practitioner working in close contact with the Health Centre. This latter idea, even if the scheme falls about it in ruins, should surely remain, for it is the legitimate offspring of the idea of positive health which forms the basis of the plan.

The "family doctor" is termed "the first line of defence," but now he no longer fights alone without the faintest notion as to the state of the battle on his flanks; he is able now to collaborate with his fellow physicians and with the Health Centres and Clinics. Moreover, the majority of the general practitioners will be centrally directed and advised by a new body, the Central Medical Board, which overrides local administrative bodies. This board is composed of medical personnel working in close co-operation with the Minister of Health and makes itself responsible for the economical distribution and use of medical manpower. These ideas for the general practitioner service can only mean an increase in the efficiency with which patients are treated without in any way losing that doctor-patient relationship which the opponents of the scheme are so afraid will be shattered.

At any rate, group or co-operative practice, already in action in many parts of the country, has come to stay and to grow.

We should be fools if we underestimated the importance and relevance of the White Paper and were to expect this medical Utopia to appear overnight. It will be some few decades before the scheme, if accepted as it stands, will be working smoothly, for it is immensely ambitious representing the final changes in a continuous century of progress towards a positive health program whereby every man, woman and child can live in as reasonable a state of health as scientific progress and economic conditions will allow.

The White Paper

Condensed from London Letter in Can. Med. Assoc. Jour., April, 1944.

The White Paper on a National Health Service has now been published and it is slowly being digested and assimilated by those whose business it will be to make it work.

Essentially, it provides for free medical attention of every sort for everybody with no financial restrictions. For the moment, its comprehensive nature is somewhat modified by the exclusion of dental and ophthalmic services and certain aspects of medical work in industry.

It can be said that the whole plan is bold and free from ambiguity. Central administration will be by the Ministry of Health advised by a Central Health Services Council, with a Central Medical Board to control matters of personnel, the payment and placement of doctors, post-graduate work and so on. Local administration is to be by large areas, either the larger county councils or grouped county boroughs, possibly, although this is not yet clear, with five hundred thousand population as the sort of average figure. A Local Health Services Council again will be available for advice.

Hospitals will be under the new major authorities, the voluntary hospitals continuing as partners in the scheme. So long as these hospitals conform to certain conditions, they will receive financial support for services rendered, central grants as part of social security payments, and, in addition, the teaching hospitals may receive special consideration. Consultants will be based on hospitals and paid for their services, and the working out of a consultant and specialist service available for all is one of the many tasks in the immediate future. Family doctors may continue to work alone in what is now called "separate" practice or grouped in new health centres which it is proposed to build and equip as soon as possible to some extent in an experimental fashion. The family doctor may be paid partly in salary, in part by capitation or by some new scheme, but unless he is working on a full-time basis, he will be allowed private work.

The finance of the whole scheme can be summed up very roughly by saying that one-third will be paid for by the local ratepayers, one-third out of national taxes and one-third from the social security fund which is likely to be established when the Beveridge report is implemented.

Reactions to the White Paper vary with the party politics or preconceived ideas of the people concerned. In general, it is regarded as a compromise, representing evolu-

tionary changes which will take some time to effect. The older practitioner is inclined to shrug his shoulders and believe that it will not affect him in his lifetime, and the younger man wants to know far more details. The British Medical Association justifiably sees in certain of the suggestions the beginnings of a whole-time state salaried service and in its official organ has warned the Government that these will be resisted. On the whole, there is some feeling of relief in the medical profession that the Government has not gone much further in the direction of abolishing private practice.

Social Medicine

The interim report of the Royal College of Physicians of London recommends that every medical school should establish a department of social and preventive medicine and that this department should organize a course in the subject to replace the present course in public health. As well as theoretical teaching the curriculum should bring the student into close touch with the active organizations concerned with social and preventive medicine, including the health services provided by the local authorities. It must be supposed that these will include the dental services, and great benefit may be expected if this recommendation of the College leads general practitioners to a greater appreciation of what is being done and can be done in that province. A further recommendation is that student health services should be available in every medical school and that under the general direction of the head of the department of social and preventive medicine they should be used as an instrument of teaching.—Br. Dental Jour.

A Leading Article in the "Manchester Guardian" Dentists Wanted

In the seventeenth century shaving and "tooth drawing" were skills commonly practised by the same barber, and it is only in the last fifty years or so that dentistry has risen to the status of a profession. Possibly this has helped to make its attractions less bright than those of the ancient career of medicine, though dentistry has suffered even more from the deep popular ignorance of the value of having healthy teeth. Sciences which the public endows with importance are not apt

to lack followers. Today we have belatedly realized that a national health service cannot properly exist without its dental side. Yet, as Charles Penold pointed out at the Dental Hospital of Manchester, there are not enough qualified men to staff a national dental service. For this 700 new entrants would be required each year, but the average annual output of the schools before the war was 317. We shall want more dental schools and larger staffs. One thing is quite clear; no profession offers greater security for the future, and in few at this time can a young man expect to supply a greater social need.—*Dental Record*.

AUSTRALIA:

The Education of the Children of Dentists Killed or Disabled in War Service

Condensed from Editorial in Australian Jour. of D. March, 1944.

The Council of the Victorian Branch of the Australian Dental Association has de-

cided that its war effort for 1944 shall be the raising of a fund which will be used to perpetuate the memory of members of the profession who have lost their lives as a result of war service.

The Council believes that this objective can best be served by making it possible that the children of dentists who have lost their lives or have become incapacitated shall receive an education of an equal standard to that which they would have received had their fathers not entered upon a war service.

It may be that in some instances dentists themselves will be incapacitated and unfitted for work and may require assistance from this fund.

The Council feels confident that all dentists who have been unable to undertake active war service and who have been able to carry on their practices will consider it a privilege to subscribe to this fund.

GENERAL NEWS

Borden Nutrition Award

Dr. E. V. McCollum, of the School of Hygiene and Public Health of the Johns Hopkins University, is the first recipient of the Borden Nutrition Award given by the American Institute of Nutrition. The citation reads: "In recognition of his long years of pioneering research in nutrition; his contributions to our knowledge of the vitamin content of milk and of the high nutritive value of 'protective foods,' one of which is milk, have served as foundation stones for improving through foods the nutrition and health of the human race."—*Science*.

A.D.A. Junior Members

It was announced that on March 1, the American Dental Association had the greatest enrolment of Junior members ever recorded for the current period of the scholastic year. The Junior members numbered 3,961 compared with 3,644 March 1, 1943.

A.D.A. Membership in 1944 Ahead of 1943 at Same Date

The membership of the American Dental Association March 31 was 46,432. The

General Secretary, Dr. Pinney indicated that this number represented an addition of 3,000 members of all classes, to the total membership at the same time in 1943.

Canadian Dental Students in the U.S.A.

In the dental students' register of 1943, published by the Council on Dental Education of the American Dental Association, it was stated that there were thirty-four Canadian students registered in the dental schools of the U.S.A. Twenty of these thirty-four were registered in the North Pacific College of Oregon.

Dentistry in New York City

Dentistry in the City of New York has opened a new chapter in its history. Over one thousand persons attended the meeting at which the branches of the Allied Dental Council in Manhattan and the Bronx became components of the First District Dental Society.

Dentistry in New York, like the profes-

sion as a whole, is facing turbulent trends and now that this merger has taken place, the dental leaders will be able to speak for all of the organized dentists in the City.

Fluorine and Caries

Excerpt from Editorial in Br. D. Jour. January 21, 1944.

The use to which our knowledge to date may be put will not necessarily be the distribution of fluoride in appropriate concentration, say 1 part per million, to the population in its drinking water. That may or may not prove advisable. So long as we are unaware of the effective mechanism that course might seem desirable, though in view of the toxic effects of overdosage a fool-proof system of supervision would have to be devised. Drennan has indeed suggested its safe distribution as a constituent of bone-meal. One might also foresee a situation in which fluoride supplements were pressed upon the public by well-meaning or unprincipled persons so that the total intake

in some quarters might reach harmful levels. What exactly are harmful levels we do not know: Bromehead, Murray and Wilson reported many cases of mottled enamel in areas where the water contained only 0.3 part per million; and ill-effects on bone growth, possibly due to cumulative intoxication, have also been suggested. Legislation in relation to the sale of fluoride-containing preparations may need revision.

Scientific comprehension to the effect produced may, however, as in so many other cases, allow us to produce a less dangerous but equally effective substitute, or by extension of the same principle to interrupt the sequence at another point in a harmless manner. There certainly appear to be real grounds for hope that caries experience can be reduced by perhaps one third and possibly more by chemical measures under public control. Combined with other dietary, hygienic, and educational improvements this should bring the caries problem within more manageable proportions.

IN MEMORIAM

Creel Armour Tanton of Niagara Falls, Ontario, aged 46, died suddenly April 16, 1944.

He received his early education in Charlottetown, P.E.I. In 1919 he began the study of dentistry in Toronto, graduating from the Royal College of Dental Surgeons in 1923. After his graduation he set up practice in Niagara Falls, where he remained until his death.

He was a charter member of the Kiwanis Club of Niagara Falls; I.O.O.F.; member of the Chamber of Commerce; and of the First Church of Christ Scientist.

Dr. Tanton is survived by his widow, one son, two daughters, a sister and two brothers.

Thomas Fredrick Campbell of Galt, Ontario, aged 70, died suddenly on April 11, 1944.

In 1895 he began the study of dentistry

and in 1899 was graduated from the Royal College of Dental Surgeons of Ontario. He set up practice in Galt where he remained until his death.

He was at one time a member of the Executive Committee of the Dentists' Legal Protective Association. He belonged to the Masonic Order.

Dr. Campbell is survived by his widow and one son, Kenneth, of the R.C.A.F.

Edwin Lowe McKee of Medicine Hat, Alberta, aged 65, died suddenly on January 15. He was graduated from Chicago Dental College in 1901. He went west immediately and practised in Cardston and Lethbridge for a short time before finally settling in Medicine Hat in 1902, where he practised dentistry until his death.

Dr. McKee is survived by one sister and one brother.

. . . SECTION FRANÇAISE . . .

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenant, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Venne, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAUDEAU, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

La Chirurgie dentaire des Pays-Bas

Sa restauration en Hollande

Dans quel état trouvera-t-on l'enseignement et la pratique de la chirurgie dentaire dans toute l'Europe après la guerre. Il n'y a pas de doute qu'après les interminables destructions, déclenchées par les adorateurs du veau d'or, il faudra tout rebâtir, tout restaurer et même tout réformer. Et les premiers à fendre l'air de leurs cris en faveur des réformes et d'un ordre nouveau seront justement les mêmes qui les premiers crièrent aux armes suppliant les autres de se battre pour défendre l'ordre établi. Faut-il que le monde soit sérieusement malade pour que tant de pays malgré la conviction intime de l'immense majorité de leurs habitants se soient laissés entraîner dans cette tuerie générale.

Les pays comme les individus finissent toujours par se laisser détruire surtout quand ils s'aperçoivent que les résultats certains de leur folie seront tout l'opposé de leurs désirs. Aussi depuis quelques mois voit-on des signes évidents de cette lassitude générale et partout l'on parle abondamment de l'après guerre, de reconstruction, de réorganisation, etc.

La restauration de la chirurgie dentaire en France, en Belgique et dans les Pays-Bas nous touche de bien près, aussi nous réjouissons-nous grandement d'apprendre que déjà on se prépare à cette restauration en Hollande. Et c'est avec plaisir que nous publions cette note aimablement fournie par M. Jan Van Stappen directeur du Bureau d'Information du Gouvernement des Pays-Bas.

"EXPEDITION DA LA CROIX D'IVOIRE" EN HOLLANDE LIBEREE.

Montréal, le 5 mai: On fait présentement aux Etats-Unis d'intéressants projets en vue de restaurer en Hollande, aussi rapidement que possible après sa libération,

la pratique de la chirurgie dentaire à son niveau d'avant guerre. En tête des promoteurs de ce projet se trouve le Docteur S. L. T. Appleton Doyen de l'Ecole de Dentisterie de l'Université de Pensylvanie. Sous sa direction on formera un corps destiné à donner des cours à l'Université d'Utrecht en Hollande aussitôt que les conditions le permettront. Ces cours dureront quatre semaines et seront préparés d'avance en anglais et en hollandais. Le Docteur Appleton a désigné le Professeur Lester W. Burkert à la direction de ce comité et le gouvernement de Hollande a chargé le Dr Herbert Loeb de Cambridge Mass, de collaborer avec lui. Le docteur est un gradué de l'Université d'Utrecht et de l'Université Pensylvanie.

M. le doyen Appleton a déjà offert de mettre à la disposition du comité tous les livres de technique et les publications dont l'école possède plus d'un exemplaire. On obtiendra aux Etats-Unis le matériel et les instruments nécessaires aux démonstrations pratiques, les fournisseurs ayant promis leur collaboration.

Le projet a reçu l'entière approbation du ministère de l'éducation de la Hollande le Dr Gerrit Bolkestein présentement en ce pays, pour étudier le système des écoles américaines. Le comité portera le nom de "L'Expédition de la croix d'Ivoire" association hollandaise pour l'élimination de la carie dentaire, dont la Princesse Juliana est présidente honoraire.

Il y a peu de doute que la sous-alimentation et le manque des vitamines nécessaires ont dû causer beaucoup de caries chez le peuple hollandais pendant que l'interruption de la vie universitaire durant l'occupation nazis a dû rendre presque impossible l'étude de la dentisterie et des autres branches de la médecine.

La Rédaction.

Sinus et Dents ⁽¹⁾

Par M. le DR R. MAYOUX,
Chef de Clinique à la Faculté de Médecine de Lyon.

Le sinus maxillaire peut s'infecter par voie dentaire et par voie nasale, et il peut également s'aborder par voie buccale et par voie nasale. Autour de ce point ont tourné presque toutes les discussions sur la pathogénie et le traitement des sinusites maxillaires, —ou sinon toutes les discussions, du moins celles portant sur les points qui peuvent nous intéresser.

Je serais très heureux si quelques-uns d'entre vous voulaient bien, après mon exposé, corriger mon point de vue peut-être trop étroit par le leur,—par le vôtre qui, partant d'une expérience toute différente, doit aboutir à des résultats intéressants. Certainement la confrontation des deux expériences, celle des spécialistes oto-rhino-laryngologistes et celle des spécialistes de l'art dentaire, peut amener la mise au point de celle question.

Le sinus maxillaire peut s'infecter par voie nasale et il peut s'infecter par voie dentaire. L'infection dentaire est la plus anciennement connue. Deux choses sont à étudier dans cette infection: il faut savoir quelles dents infectent le sinus, et d'autre part, il faut savoir quelles sont les lésions dentaires en cause.

Les dents qui sont en rapport le plus immédiat avec le sinus sont les deux grosses molaires. C'est l'opinion classique et elle est juste. Cependant, les rapports avec les dents sont variables et d'autres dents peuvent être en cause: cela dépend naturellement de la forme du sinus, de son bord inférieur, qui peut être mis en rapport avec les deux prémolaires, même quelquefois, mais beaucoup plus rarement, avec la canine, ou avec des dents de sagesse.

La configuration du maxillaire supérieur rend l'infection du sinus plus ou moins facile. Souvent les dents ne sont séparées du plancher du sinus que par un os extrêmement mince et par la muqueuse; quelquefois même la racine des dents fait

¹ La Province Dentaire Vol 21. N° 5.

saillie dans le sinus, elle est en contact direct avec la muqueuse du sinus. Dans d'autres cas, au contraire, elle est loin du sinus, dont elle est séparée par une couche d'os assez épaisse.

Cependant, vous ne devez pas vous imaginer qu'une couche d'os épaisse oppose une barrière efficace à l'infection, car celle-ci se propage aisément par les voies conjonctives, qui servent de chemin aux vaisseaux nourriciers de l'os.

D'ordinaire, c'est l'infection du quatrième degré qui crée un abcès péri-alvéolaire, propagé facilement à l'intérieur du sinus maxillaire. Cependant, il est important de savoir que des lésions plus discrètes peuvent créer la sinusite, et c'est là une des nombreuses causes d'erreur de diagnostic.

C'est ainsi, par exemple, que des dents dévitalisées en vue de la pose d'un appareil prothétique, peuvent être à l'origine d'une infection du sinus alors qu'elles sont, en apparence, encore saines. Dans la majorité des cas, elles peuvent être parfaitement tolérées pendant toute la vie de l'individu. Mais il arrive qu'il se produise au niveau de la racine, une zone d'ostéite, de suppuration, qui envahit le sinus.

Il y a là l'application d'une loi biologique générale: chaque fois qu'un corps étranger, même aseptique, se trouve dans l'organisme,—et une dent dévitalisée joue le rôle d'un corps étranger,—on peut voir, après une longue phase de tolérance, se produire l'expulsion par le mécanisme de la suppuration.

Des dents ont pu être touchées par un léger traumatisme, lequel a créé une petite fissure, puis une mortification pulpaire,—et ces dents, en apparence normales, peuvent être à l'origine par le mécanisme de la mortification, puis de l'infection de la chambre pulpaire, d'une sinusite maxillaire. On peut également méconnaître, à l'examen rapide d'une mâchoire, de petits débris de racine malade, des esquilles restées au niveau d'une alvéole.

Dans tous ces cas, il n'existe souvent aucun symptôme clinique d'atteinte de la dent, mais dans tous les cas, l'infection osseuse, trait d'union entre la lésion dentaire et la sinusite, apparaîtra à la radiographie.

Vous voyez donc que, pour reconnaître l'origine dentaire de la sinusite, il faut non seulement examiner les dents, et devant une carie du quatrième degré, penser au cheminement de la suppuration, mais aussi savoir faire une radiographie qui décèlera souvent une lésion cliniquement inappreciable.

Il existe un autre type de lésion qui, respectant à proprement parler la dent, peut quelquefois envahir le sinus maxillaire, c'est la pyorrhée alvéolo-dentaire. Elle peut, en cheminant progressivement entre la gencive et la dent, gagner le sinus maxillaire.

A côté de ces cas où la sinusite se trouve au premier plan, il en est d'autres dans lesquels l'ostéite accapare l'attention par des signes importants et où la sinusite peut être facilement méconnue. C'est ainsi que dans l'ostéomyélite aiguë du maxillaire supérieur d'origine dentaire, vous avez des symptômes locaux et généraux très graves: ostéophlegmon, douleurs vives, température élevée, et vous pouvez avoir aussi la participation du sinus. Cela se produit également dans l'ostéite subaiguë et l'ostéite chronique, et assez souvent dans l'ostéite torpide, à cheminement capricieux, que vous connaissez bien, et qui va ouvrir le sinus non pas seulement au niveau du rebord alvéolaire, mais quelquefois au niveau de la paroi antérieure, et plus rarement au niveau de la voûte palatine.

Ces lésions sont importantes à connaître, parce qu'elles ajoutent à la symptomatologie de la sinusite maxillaire quelque chose qu'on n'y voit pas d'habitude: un symptôme extérieur. La sinusite maxillaire ne s'extériorise pas à la joue. Lorsque vous voyez un malade présenter une tuméfaction de la joue, il faut penser à autre chose qu'à une sinusite simple. Le plus souvent c'est un abcès dentaire; il peut créer une fissure dans la paroi osseuse du sinus,—et ceci est très intéressant à connaître, parce que cela contre-indique les lavages par voie alvéolaire ou nasale. Vous concevez combien il serait dangereux d'injecter sous pression du liquide dans un sinus, si ce

liquide devait ensuite, à travers les parois du sinus, passer dans les parties molles qui enveloppent le maxillaire supérieur, et y répandre l'infection.

Telles sont les lésions dentaires à l'origine des sinusites. Mais il est une autre voie d'infection: la voie nasale. Le sinus maxillaire communique avec le nez par un orifice absolument constant, et quelquefois même par plusieurs orifices. Du reste, le sinus maxillaire est revêtu d'une muqueuse qui est une émanation de la muqueuse nasale, qui a la même pathologie qu'elle, et chaque fois qu'il existe de l'infection nasale, il peut y avoir de l'infection du sinus.

Il est difficile de dire quelle est la proportion, parmi les sinusites maxillaires, des cas relevant de l'étiologie dentaire, et des cas relevant de l'étiologie nasale. Il est probable qu'à l'état pur, elles se retrouvent en nombre égal. Ce sur quoi je voudrais insister, c'est sur l'association habituelle des deux causes. Il est très fréquent que les sinusites soient créées à la fois par une infection dentaire et par une infection nasale. Ce que l'on voit le plus souvent, en effet, c'est un sujet qui présente une dent malade, avec une infection légère, latente, du sinus, et qui, à l'occasion d'un coryza, va présenter des douleurs plus vives, une suppuration plus abondante, ajoutant l'infection nasale à l'infection dentaire.

Ceci est l'infection du sinus maxillaire chez l'adulte. Cette infection existe également chez le nourrisson et chez l'enfant. Chez le nourrisson, on voit quelquefois une tuméfaction énorme de la joue, avec une tuméfaction du rebord alvéolaire, et une fistulisation de cet abcès au niveau de la voûte palatine. C'est ce qu'on a appelé pendant longtemps la sinusite maxillaire du nourrisson. En réalité, le nourrisson n'a pas de sinus maxillaire,—ou du moins son sinus n'est pas beaucoup plus gros qu'un grain de blé, et son infection ne peut avoir de retentissement important au niveau du maxillaire supérieur. Mais, et c'est là que la question vous intéresse, cette sinusite maxillaire du nourrisson,—qu'on appelle plus exactement la fausse sinusite maxillaire du nourrisson,—est une infection toujours d'origine dentaire: c'est l'infection de la poche des germes dentaires.

Alors que l'infection du sinus maxillaire de l'adulte est une infection d'ordre local qui se fait par l'introduction directe des germes à travers le nez ou les dents, l'infection des germes dentaires chez le nourrisson est une infection hématogène. Sa pathogénie est celle de toutes les ostéomyélites. Sa localisation s'explique très bien. L'ostéomyélite se localise au niveau de la région fertile des os, et pendant la période d'accroissement des os.

Or, la première année de la vie est pour le maxillaire supérieur une période de grande activité, et il faut voir dans la fréquence de l'ostéomyélite du maxillaire supérieur à cet âge, la simple traduction de l'activité physiologique de cet os. Il y aura assez vite, vers la troisième, la quatrième ou la cinquième année, la possibilité d'une véritable sinusite maxillaire. Mais,—tandis que la fausse sinusite maxillaire du nourrisson est toujours dentaire,—la sinusite maxillaire de l'enfant est presque toujours nasale: vous voyez donc qu'aux divers âges de la vie, la sinusite maxillaire a une étiologie différente: elle est soit nasale, soit dentaire chez l'adulte. Elle est toujours dentaire chez le nourrisson, toujours nasale chez l'enfant.

Cette étiologie étant connue, je voudrais vous exposer,—non pas les symptômes de la sinusite maxillaire,—ce qui nous entraînerait trop loin, mais voir dans quelle mesure on peut, devant le malade, et sans le secours d'instrumentation spéciale, reconnaître la sinusite maxillaire. Ce n'est pas facile.

Il existe, au point de vue clinique, trois ordres de symptômes: la douleur, la suppuration et les modifications extérieures de la région. Tous ces signes sont aisément trompeurs.

La douleur, dans les cas typiques, vous savez ce qu'elle est: c'est une douleur au niveau du maxillaire supérieur, irradiée dans les dents, puisque les nerfs dentaires passent dans les parois du maxillaire supérieur, douleur réveillée et accentuée par la

pression au niveau de l'orifice sous-orbitaire, où débouche le nerf sous-orbitaire.

Il est facile alors de reconnaître la sinusite maxillaire. Mais cette douleur typique est très loin d'être la règle. La plupart du temps, la sinusite chronique maxillaire n'est pas douloureuse, sauf dans les phases de rétention, lorsque le pus s'évacue mal dans le nez, et provoque, par la distension du sinus, la compression des nerfs dentaires.

Il y a plus: il existe souvent dans la sinusite maxillaire des douleurs qui siègent en tout autre point que dans la région malade, et qui peuvent facilement égarer le diagnostic. Beaucoup de malades ne souffrent qu'au niveau de la région frontale, peut-être par suite d'une tuméfaction de la muqueuse du méat moyen, qui gêne l'évacuation du sinus frontal.

Exceptionnellement, vous constatez une douleur du côté opposé: on ne peut, d'après les seuls caractères de la douleur, faire un diagnostic précis.

Le second symptôme est la suppuration,—l'écoulement du pus par le nez. Il est certain qu'il vous sera d'un très grand secours pour le diagnostic, d'apprendre que votre malade mouche du pus d'un côté. Lorsqu'il existe une lésion dentaire associée, c'est généralement le signe d'une sinusite maxillaire. Mais cet écoulement purulent n'apparaît pas toujours aux narines. Il peut se faire dans le pharynx: le malade crache du pus, mais n'en mouche pas. Enfin, à certains moments, les malades atteints de sinusite maxillaire ne crachent ni ne mouchent de pus: il est des phases de rétention au cours desquelles la suppuration n'apparaît pas.

Le troisième symptôme est l'absence de manifestations extérieures. Il faut que vous sachiez que la sinusite maxillaire n'a pas de symptômes extérieurs: il n'y a pas de gonflement de la joue, pas d'œdème des parties molles. La sinusite frontale au contraire, s'extériorise très facilement, et donne de l'œdème de la paupière et des parties molles du front. Lorsque vous voyez des signes au niveau de la joue: œdème, rougeur, tuméfaction, vous devez penser qu'il s'agit d'autre chose que d'une sinusite maxillaire. Il s'agit assez souvent de sinusite maxillaire associée à de l'ostéite dentaire.

On voit en effet, de temps en temps, des malades qui présentent un abcès à la face antérieure de la joue, un orifice à travers la paroi antérieure du sinus maxillaire et de la sinusite. Il ne s'agit pas d'une sinusite extériorisée, mais d'un abcès né de la dent, qui s'est ouvert secondairement dans le maxillaire supérieur.

Il faut savoir que dans ces accidents intervient souvent une autre cause, qui peut favoriser l'extériorisation, et c'est une notion que vous devez avoir toujours présente à l'esprit, car elle est très importante dans la pathologie de toutes les complications osseuses des lésions dentaires: cette cause est la syphilis. Vous savez que les accidents dentaires évoluant chez les syphilitiques ont une tendance à créer des lésions osseuses étendues avec des séquestres, et lorsque vous observerez une sinusite maxillaire en voie d'extériorisation avec séquestre, pensez toujours à la syphilis; vous devrez faire le traitement local, mais il n'agira que si vous faites en même temps le traitement général de la syphilis.

Il existe une autre affection dont il faudra également toujours vous méfier lorsque vous verrez des signes extérieurs au niveau de la joue, c'est le cancer du sinus. On voit souvent des cancers du sinus qui ont été, pendant d'assez longues périodes, traités pour des lésions dentaires. Ces malades souffrent dans leurs dents, et très souvent la cure des cancers du sinus a commencé par l'exérèse d'un certain nombre de dents.

Enfin, une cause infiniment plus rare est la tuberculose. Elle crée, comme la syphilis, des séquestres, des lésions osseuses, étendues, qui vont donner des modifications extérieures.

De tout cela, il faut retenir que la sinusite maxillaire ne donne pas de symptômes extérieurs au niveau de la joue, et que lorsque ces symptômes existent, ils doivent faire penser le plus souvent à un abcès d'origine dentaire et vous faire soupçonner parfois la possibilité d'une lésion néoplasique ou syphilitique associée.

Dans tous ces cas, vous devrez être extrêmement prudents au point de vue des

lavages, parce que l'existence d'une fissure de la paroi antérieure du sinus peut rendre les lavages non pas seulement inopérants, mais dangereux. Ce sont des cas à opérer d'emblée.

Vous voyez donc que l'examen clinique réduit à ses moyens les plus élémentaires, ne permet pas toujours le diagnostic de sinusite maxillaire. Ce diagnostic sera fait par l'examen rhinoscopique et radiographique.

L'examen rhinoscopique montrera le pus au niveau du méat moyen, sortant de l'orifice du sinus maxillaire. L'éclairage par transparence,—le malade est mis dans une chambre noire, avec une ampoule dans la bouche,—révélera l'obscurité du sinus.

Dans les cas douteux, le lavage du sinus permettra de retirer du pus. C'est une manœuvre rapide, inoffensive et indolore, qui permet facilement de trancher la question d'une façon décisive.

Si votre malade craint le lavage, vous pourrez faire une radiographie qui montrera l'obscurité du sinus maxillaire. La sinusite suppurée est facile à mettre en évidence par un examen correct.

À côté des sinusites purulentes, il faut connaître les réactions sinusiennes larvées, sinusites catarrhales sans pus. Elles sont fréquentes au cours de l'évolution des diverses affections dentaires. Cette notion est intéressante, parce qu'elle doit peser dans votre décision relative à la suppression d'une dent. Lorsque vous hésitez à sacrifier une dent, si vous constatez, non pas une sinusite suppurée, mais une légère réaction du sinus, quelque douleur, une légère opacité à la diaphanoscopie, un léger voile à la radiographie, il faut sacrifier la dent sans hésiter. Si vous ne faites pas cette vérification, vous pouvez être entraîné à conserver la dent, et vous exposer à des accidents ultérieurs.

Voilà l'essentiel de ce que je voulais vous dire au point de vue étiologique et clinique, sur la sinusite maxillaire. Je voudrais aborder en quelques mots la question du traitement. Le premier acte du traitement, et qui très souvent suffit à lui seul, sans aucun lavage, est l'avulsion de la dent malade.

Le traitement par voie dentaire est le plus anciennement pratiqué. Il est certain que lorsque après l'avulsion d'une dent, vous observez un orifice de communication entre la bouche et le sinus, vous avez là une voie toute trouvée pour des lavages du sinus.

Cette méthode a été longtemps la seule. Vous savez ce qu'on faisait: on effondrait le plafond de l'alvéole, une fois la dent arrachée, et on lavait la cavité sinusienne par cet orifice. On était très préoccupé d'empêcher cette fistule de se fermer, et pour cela, on mettait à ce niveau un clou, que l'on faisait en diverses matières inaltérables, ce qui permettait de laver indéfiniment le sinus. Les progrès de la rhinologie ont fait rejeter, au moins en partie cette méthode,—je vous dirai tout à l'heure ce qu'il faut penser de cette question.

On a pensé qu'il était illogique d'ouvrir le sinus dans une cavité aussi septique que la bouche, alors qu'on pouvait l'ouvrir dans le nez. On a pensé qu'il était désagréable pour le malade d'avoir un écoulement purulent dans la bouche, ce qui aboutissait à cette conséquence "de lui faire manger tous ses aliments à la mayonnaise purulente" (*Lermoyez*). De plus, la présence d'un clou créait souvent un trajet permanent, que l'on avait beaucoup de peine à obturer, une fois la sinusite guérie. Cela nécessitait parfois des procédés plastiques compliqués ou des appareils de prothèse.

Cet ensemble de raisons a fait qu'officiellement la rhinologie a répudié cette voie dentaire dans le traitement des sinusites.

En réalité, il semble qu'il ne soit pas bien dangereux, lorsque l'avulsion dentaire a été réalisée, involontairement, une communication entre le sinus malade et l'alvéole de pratiquer quelques lavages. On peut ainsi guérir un très grand nombre de sinusites, cela est certain. Il est même légitime dans certains cas, de profiter, une fois la dent arrachée, de l'anesthésie pour effondrer le plafond de l'alvéole à la fraise, et pour créer une communication avec le sinus, de façon à pouvoir faire quelques lavages. Bien qu'officiellement répudiée dans l'enseignement de la rhinologie, cette

méthode est très défendable. Mais il ne faut pas s'obstiner trop longtemps parce que, lorsque, après un petit nombre de lavages, vous n'avez pas vu le pus se transformer en mucus et disparaître, vous ne guérez pas la sinusite, et d'autre part, il ne faut pas maintenir dans l'intervalle des lavages la fistule ouverte: il faut la laisser se fermer assez vite.

La voie nasale, qui est notre voie habituelle, est évidemment bien plus séduisante logiquement. Il existe, au niveau de la paroi nasale du sinus maxillaire, une zone extrêmement mince, qui s'effondre sous une pression très minime, presque sans effort, et qui permet d'entrer ainsi dans le sinus maxillaire, et de réaliser des lavages propres, sans ouvrir le sinus dans une cavité septique, et sans craindre une fistulisation: c'est notre méthode habituelle.

Mais là comme dans les lavages par voie alvéolaire, ceux-ci ne doivent durer qu'un temps limité. Si vous n'obtenez pas très vite l'amélioration franche de votre malade, il faut vous décider à opérer.

L'opération la plus habituellement pratiquée est celle de CALDWELL et LUC, qui l'ont découverte à peu près simultanément. Vous faites une large ouverture du sinus maxillaire au niveau de la joue (ouverture temporaire), après avoir incisé la gencive et récliné les parties molles. Vous faites une seconde ouverture du sinus au niveau du nez (ouverture qui sera définitive) et vous réalisez le curettage à travers cette large ouverture jugale. C'est une méthode excellente, qui amène une guérison rapide.

Je n'insiste pas sur les nombreuses autres techniques qui toutes donnent également d'excellents résultats. Mais ce que je voudrais vous dire, c'est qu'il s'est dessiné, ces dernières années, chez les rhinologistes même, une réaction contre ces interventions, et l'on a voulu obtenir, à moins de frais et plus simplement, la guérison.

On a proposé simplement d'ouvrir le sinus par voie nasale, de créer à travers le méat inférieur, un petit orifice où passerait à peine le doigt; on réalise ainsi le drainage permanent du sinus. Et l'expérience prouve que le simple drainage, sans aucun curettage, suffit dans la grande majorité des cas, à guérir la sinusite maxillaire. Une intervention plus importante n'est nécessaire que lorsqu'il existe de grosses lésions d'ostéite du rebord alvéolaire.

Et LUC lui-même, l'initiateur de l'opération radicale, pendant les dernières années de sa vie, ne pratiquait presque plus son opération.

Il est un autre point qui vous intéresse, dans la cure radicale des sinusites maxillaires: lorsqu'on a trépané la paroi antérieure du sinus maxillaire, on a sacrifié les vaisseaux et les nerfs des dents. On s'est demandé ce que devenaient ces dents ainsi dépourvues, ou du moins insuffisamment pourvues, de système vasculaire et nerveux. Certains ont pensé que ces dents étaient destinées à mourir, et qu'il fallait les soigner si on ne voulait pas qu'elles s'infectent. En réalité, cette crainte paraît vaine, et la plupart des malades qui ont eu une trépanation du sinus gardent une denture en excellent état. Même mortes, ces dents sont habituellement bien tolérées.

Je voudrais, en terminant, vous dire quelques mots de deux accidents assez fréquents, l'un insignifiant, l'autre parfois grave, que vous avez assez souvent l'occasion d'observer dans votre pratique.

Le premier est relatif à l'ouverture involontaire du sinus au cours d'une avulsion dentaire. Vous verrez souvent des malades, après une extraction dentaire, affolés parce qu'au cours d'un lavage de bouche, l'eau passe par le nez. Il s'agit naturellement d'une communication entre la bouche et le sinus: vous savez que, le sinus communiquant avec le nez, l'eau peut alors passer dans les fosses nasales. Ce n'est pas là un accident, c'est un simple incident. Dans de tels cas, le sinus maxillaire ne s'infecte, pour ainsi dire, jamais. Il faut bien se garder de faire le moindre lavage, le moindre traitement local. La fistule se ferme spontanément, sans que réagisse le sinus.

Le second accident peut être plus grave; c'est l'irruption d'une racine dans le sinus au cours d'une extraction. Alors que l'ouverture du sinus est un incident sans gravité, la pénétration d'une dent dans le sinus expose toujours à la sinusite. Dans tous les cas où l'on a pu suivre ces malades, on a toujours vu se développer une sinusite suppurée dans les mois qui ont suivi. Il faut à tout prix extraire la racine ou la dent qui est tombée dans le sinus, et ce n'est pas facile.

Vous devez vous garder de toute manœuvre aveugle à travers l'orifice alvéolaire. Avec une pince, vous ne parviendrez jamais à extraire le corps étranger,—si ce n'est par une chance tout à fait extraordinaire,—et beaucoup plus souvent vous ferez des dégâts sérieux: il est impossible d'extraire la dent de la cavité anfractueuse munie de multiples prolongements que constitue le sinus maxillaire. L'habitude est d'ouvrir le sinus largement, et à travers cette large ouverture, de chercher la dent. On peut alors trouver la dent, mais non pas toujours aisément, parce que les prolongements du sinus sont multiples, parce que le sinus saigne, et très souvent la dent ou la racine se dissimule dans les caillots sanguins.

Il est cependant un procédé qui permet d'éviter cette intervention. C'est un procédé que nous devons à M. PONT, qui vous l'exposera certainement mieux que moi tout à l'heure, et qui consiste à passer à travers l'orifice alvéolaire une compresse de gaze que l'on enroule et que l'on promène dans le sinus, et cette compresse de gaze finit par accrocher la dent, de telle sorte qu'en arrachant la mèche, on arrache en même temps la dent, sans produire de dégât important.

Mais encore une fois,—et c'est ce point pratique qu'il faut que vous reteniez,—encore une fois, n'essayez jamais de rechercher avec une pince une dent à travers une alvéole ouverte, vous provoqueriez des dégâts et n'aboutiriez qu'à aggraver la sinusite maxillaire qui se produira à la suite de cet incident. Adresse de l'auteur: 17, rue de la Charité, Lyon (II^{me}).

Les Kystes

Le Docteur Maurice Roy de Paris, dans une communication rapportée par l'Odontologie vers 1938, traitait des différentes sortes de kystes et terminait par des conclusions qu'on pourrait il me semble se rappeler avec profit

1° Bien que toujours provoqués par une infection apicale due à la gangrène pulpaire, les kystes paradentaires, une fois formés, constituent de véritables *néoplasmes* et la suppression de la dent causale n'exerce aucune influence sur leur évolution qui se poursuit indépendamment de celle-ci.

2° Il existe une sorte de diathèse kystique qui rend les individus qui la présentent particulièrement susceptibles à la production de ces néoplasmes apicaux.

3° On rencontre, particulièrement à la mâchoire inférieure, des *kystes éburnés* dans lesquels le maxillaire s'épaissit sur sa face externe au fur et à mesure que l'os se creuse dans la profondeur par suite du développement de la poche kystique. Ces kystes à parois hyperostosées peuvent, de ce fait, en imposer pour une production néoplasique tout à fait différente.

4° Il existe, par contre, des *abcès alvéolaires chroniques éburnés* qui, avec une petite lésion périapicale peuvent donner à penser à l'existence d'un kyste en raison de la tuméfaction vestibulaire dure et régulière qui les accompagne, alors qu'il ne s'agit que d'un simple abcès alvéolaire.

5° Les parois kystiques ne peuvent jamais se détruire d'elles-mêmes, même après suppuration prolongée; le traitement chirurgical est obligatoirement le seul traitement des kystes paradentaires.

6° L'ablation des kystes doit toujours se faire par la voie intrabuccale et trans-vestibulaire.

7° L'ablation totale du kyste sera toujours pratiquée de préférence à sa marsupialisation.

8° L'anesthésie locale par voie muqueuse, complétée s'il y a lieu par l'anesthésie transcutanée, permet l'ablation des kystes paradentaires les plus volumineux.

9° Le tamponnement des kystes sera limité aux seules indications fournies par le risque d'hémorragie; il doit être supprimé complètement en dehors de celui-ci afin de ne s'opposer en rien à la réparation de la perte de substance résultant de l'ablation du kyste.

10° Les kystes paradentaires, ne récidivant pas après leur ablation complète et ne provoquant pas de métastase, sont des néoplasmes bénins dans l'immense majorité des cas; néanmoins, bien qu'extrêmement rare, il faut savoir que leur transformation maligne est possible. Il y a donc intérêt à en faire l'ablation dès que leur existence est constatée.

Questions et Réponses

tirées du J.A.D.A. et traduites de l'anglais par Gérard de Montigny, B.A., D.D.S., M.S.D.
LEUCEMIE

QUESTION:

A une réunion récente du personnel médical de notre hôpital, le médecin anatomopathologiste prétendait que la leucémie pouvait être produite par une extraction dentaire. Je représente la profession dentaire dans ce conseil médical et j'aimerais contribuer au travail scientifique de ces réunions pour maintenir le prestige de la profession dentaire. Je lis un grand nombre de revues dentaires et je crois comprendre que l'étiologie de la leucémie est encore obscure. La responsabilité du dentiste est engagée par cette opinion du pathologiste, car des poursuites judiciaires peuvent se présenter pour incriminer le dentiste dans un cas de leucémie à la suite d'extractions dentaires.

REPONSE:

Considérer une extraction dentaire comme la cause d'une leucémie n'a aucun fondement. Les extractions dentaires sont si fréquentes et les cas de leucémie sont si rares que l'apparition de leucémie à la suite d'extraction peut être considérée comme purement accidentelle et n'étant qu'une coïncidence. Il faut se souvenir que les manifestations buccales de la leucémie sont assez communes et peuvent survenir de bonne heure dans le cours de la maladie. Parfois, à cause de ces signes dans la bouche, le patient se rend chez son dentiste. Si le dentiste extrait une dent, il peut se produire une hémorragie assez grave et le patient peut se rendre chez un médecin, qui diagnostiquera une leucémie. Il est bien évident que la leucémie existait avant l'extraction, mais n'avait pas été reconnue.

Les causes de la leucémie sont encore complètement inconnues; cette affection est considérée comme une tumeur par certains chercheurs, tandis qu'elle est classifiée comme une infection d'un genre inconnu par d'autres.

PARADENTOSE AIGUE

QUESTION:

J'ai un patient, qui présente ce que j'appelle un cas de paradentose aiguë autour de deux dents adjacentes inférieures. Ce patient est un homme de 53 ans, dont les dents sont en très bonne condition. Il se produisit une enflure aiguë, qui se propagea dans les tissus de la face, avec des sacs s'étendant du bord cervical de la gencive jusque aux apex des deux dents.

Ces dents sont ou apparaissaient vivantes, sans cavité, ni obturation ou autre

défaut; apparemment, cette infection s'est développée, non dans la crevice gingivale, mais dans une région profonde de la membrane péridentaire.

J'énumère ces détails, parce que j'ai donné au patient des traitements prophylactiques à des intervalles bien réguliers et je suis certain qu'il n'y avait pas de sacs pyorrhéiques ou de défauts de la gencive autour de ces dents, si ce n'est une récession de la gencive à cet endroit, depuis quatre mois, du côté lingual.

J'aimerais avoir votre opinion au sujet de ce cas, tant qu'à la cause, au pronostic pour les autres dents et au traitement.

REPONSE:

Il semble que cette inflammation aiguë était causé par un abcès latéral (de la membrane péridentaire), résultant d'une infection aiguë dans un sac pyorrhéique profond. Souvent, parce qu'une poche gingivale est profonde et étroite, quand elle devient infectée, le drainage est difficile et les tissus sous-jacents sont pris rapidement par l'infection.

Le traitement consiste dans des irrigations locales avec un antiseptique doux, comme une solution iodo-saline, et ensuite l'élimination du sac ou l'extraction de la dent. Le pronostic pour les autres dents est mauvais, parce que des abcès latéraux récidivent souvent. Parfois, une enflure aiguë apparaît autour de dents vivantes à la suite d'usage immodéré d'instruments prophylactiques. Aussi le fait d'enfoncer un dépôt calcaire dans l'épaisseur des tissus gingivaux peut causer une infection locale grave. Ces cas, cependant, sont limités aux gencives et n'occasionnent pas la formation de sacs pyorrhéiques, à moins que l'os alvéolaire soit tuméfié et qu'une ostéomyélite s'ensuive.

“Acryliques”

QUESTIONS ET REPONSES

Par le DR MAURICE STERN

Traduction, Alcide Thibaudeau, D.D.S.

Question: Il est un défaut qui apparaît dans certaines de mes pièces (couronnes ou intermédiaires) finies en acrylique, et comme je ne puis l'attribuer à aucune des fausses manoeuvres indiquées dans votre livre "Enameloid Acrylic" je vous serais reconnaissant si vous pouviez m'aider à surmonter cette difficulté.

La meilleure description que je peux vous donner de ce défaut, c'est l'aspect trouble, nuageux que présente la surface au moment où j'enlève la feuille de cellophane après le pressage préliminaire.

Réponse: Cette imperfection vient du fait que la couche supérieure d'acrylique se décolle de l'autre au moment où vous enlevez le cellophane que vous n'aviez pas suffisamment humecté. Il se forme entre les deux couches une partie poreuse qui par diffusion de la lumière masque la couleur sous-jacente d'un nuage blanc.

Question: Quand je me sers de la méthode de bourrage décrite dans votre livre ou dans la livraison de février 1944 du journal de l'Association Dentaire Canadienne, mes succès sont variables. Quelquefois le matériel se manipule très bien mais d'autres fois très mal.

Réponse: C'est parce que pour contrôler la couleur, il est important que la proportion entre la poudre et le liquide soit exacte.

Pour une portion ordinaire on atteint le point de saturation quand la poudre atteint l'état de sable mouillé.

On ajoute alors une ou deux gouttes de monomère (selon la masse) pour suppléer à l'évaporation. Perdre son temps pendant le bourrage, tenir le bocal ouvert augmente l'évaporation du liquide comme les courants d'air et la chaleur. Autant de facteurs qui peuvent modifier la plasticité de l'acrylique.

Question C.—Faut-il employer le pansement humide en cas de fluxion dentaire?

Au cours de la séance de la Société belge de Stomatologie du 8 novembre 1936, le docteur Cambrelin, agrégé de l'enseignement supérieur, nous parla de: "Quelques précisions sur le traitement des phlegmons d'origine dentaire." Il y a eu, à la suite de cette communication si intéressante, un échange de vues, où la quasi unanimité des praticiens qui prirent la parole furent d'avis que le pansement humide était contrindiqué, car il produisait une fusée de pus vers la peau. Or, il est curieux de constater qu'il est de règle chez les praticiens, s'occupant de médecine générale, de faire appliquer un pansement humide chaud sur toute la fluxion dentaire, quel qu'elle soit.

J'ai vu des résultats déplorables!

Il y a donc quelque chose à faire de ce côté-là dans l'intérêt général.

Je demande par conséquent aux confrères de nous mettre d'accord au sujet de la question posée et, fort de leurs avis éclairés, nous ferons campagne dans la Presse médicale, afin de restreindre l'emploi du pansement humide pour ne pas dépasser la très petite limite dans laquelle il doit être appliqué d'après nous.

Mais n'anticipons pas . . .

R. D.

REPONSE N° 1.—

Cette question mériterait évidemment un développement assez long. Je suis intervenu au cours de la discussion "Quelques précisions sur le traitement des phlegmons d'origine dentaire", pour faire remarquer au Dr Cambrelin que cette communication était plutôt destinée aux praticiens s'occupant de médecine générale que de stomatologie. Ce pansement humide chaud est, pour moi, contrindiqué d'une façon *absolue*. Il ne faut évidemment pas se préoccuper des quelques rares cas où l'abcès a déjà percé à l'extérieur, et dans ces cas on peut aider par le pansement humide, chaud ou non, la fin du traitement. Nous sommes alors à un stade plus avancé que celui qui nous occupe.

Jamais il ne faudrait employer des pansements humides chauds à l'extérieur. Je pense que les bains de bouche émollients conviennent beaucoup mieux pour éviter la fusée de la collection purulente vers la peau, surtout s'ils sont employés après l'extraction.

En conclusion, les cas qui pourraient justifier du pansement humide sont tellement rares que l'on peut dire qu'il vaut mieux le bannir de notre thérapeutique. Nous devons insister sur le fait qu'il faut combattre également cette légende—autant que le pansement humide—qui veut que l'on ne peut pas extraire une dent abcédée en période aiguë.

R. D. a raison de vouloir mettre cette question au point une fois pour toutes.

La raison:

1° La dent fait un abcès avec fluxion. L'extraction doit se faire (si bien entendu l'on est interventionniste) à ce moment, sans attendre, ainsi que le conseille encore trop souvent le praticien s'occupant de médecine générale et même encore trop de praticiens exerçant l'oto-rhino-laryngologie.

2° Si la collection purulente est bien formée, un coup de bistouri libérera le pus et évitera la poussée de l'abcès vers la peau. Même si la peau est déjà rouge et tendue, on doit encore éviter à tout prix l'incision à la peau pour éviter l'horrible cicatrice d'une fistule guérie.

Dr J. P.

REPONSE N° 2.—

Tout le monde reconnaît les dangers du pansement humide, surtout si on le prolonge. Il est à craindre, cependant, que le public n'y renonce pas de si tôt, à cause de la sédation qu'il procure dans les cas où les autres remèdes sont peu efficaces. Si,

déjà, nous pourrions obtenir qu'on l'abandonne dès l'apparition du gonflement qui coïncide d'ailleurs le plus souvent avec une diminution de la douleur, ce serait déjà bien joli!

B. à H.

REPOSE N° 3.—

Le pansement humide très chaud n'est nullement contre-indiqué dans la période de *phlegmasie*, puisqu'elle favorise la dilatation des vaisseaux capillaires, la défense de l'organisme et même la formation du pus. Il calme très souvent et je n'ai jamais vu personnellement de ces accidents comme la fistulisation de la peau. Mais il s'agit de ceci comme de tous les remèdes: il importe encore qu'il soit bien appliqué et il ne faut pas mettre un enveloppement humide sur un abcès qui a déjà miné le derme.

V. D. G., à B.

Nouveaux gradués en chirurgie dentaire

Voici les noms des nouveaux gradués de la faculté de chirurgie-dentaire de l'université de Montréal, ce sont: les Drs Georges Amyot, Gaston Beaulieu, Bernard Bergeron, Paul Bérubé, Gérard Bonin, Gérard Boulet, Paul Cabana, Jean-Paul Carrier, Raymond Cholette, Guy Gomeau, Réal Debien, Jean-Louis Dugal, Gabriel Dupuis, Jacques Durand, Georges Gaudet, Daniel Girard, Paul Guèvremont, Onil Hébert, Lucien-H. Héneault, Iréné Langlois, Maurice Laperrière, Léo Lavergne, Fernand Ledièvre, Germain Letendre, Mozart Maynard, Joseph Maher, Henri Michaud, Marc Morin, Wilfrid Morin, Adélard Paquin, L.-Philippe Pelchat, Gaston Perreault, Christian Racicot, Jean Rinfret, Gustave Rochon, Charles Rochette, Henri Tremblay.

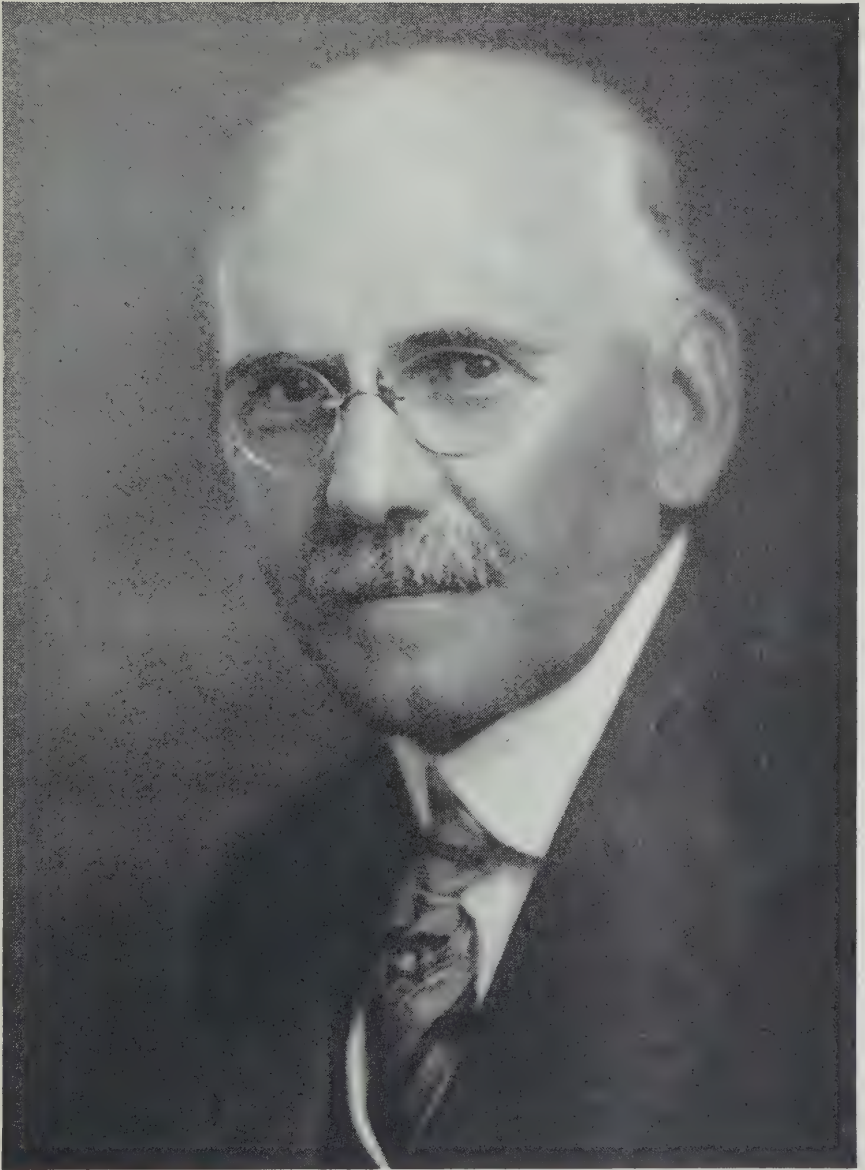
Le Dr. T. Asselin décédé à 57 ans

Le Dr Tancrède Asselin, chirurgien-dentiste, est décédé aujourd'hui, à son domicile, 2501 avenue Maplewood, à l'âge de 57 ans et 10 mois.

Né à Mont-Joli, le 20 juin 1886, du mariage de Rieul Asselin et de Cédulie Tremblay, il avait fait ses études en art dentaire à l'université Laval de Montréal et avait été licencié en 1917. Il avait toujours exercé sa profession à Montréal depuis. Il était depuis plus de vingt ans membre de la commission des examinateurs du Collège des chirurgiens-dentistes de la province, collège dont il avait été gouverneur.

Le Dr Asselin laisse sa femme (Rita Côté); ses fils, le Dr lieutenant Charles Asselin et Jacques, de Joliette; un frère, Wilfrid, de Damar, Kansas; deux soeurs, Mme Edouard Lausier (Sophie) de Montréal, autrefois de Rimouski, et Mme Romulus Desilets (Marguerite), de Montréal; ses beaux-frères, le Dr L.-G. Saint-Arnaud, de S.-Irénée, et Romulus Desilets; ses belles-soeurs, Mmes Olivar et Augustine Asselin; plusieurs neveux et nièces.

Nous offrons nos sincères sympathies à la famille.



HENRY P. TEMPLE,
died on July 5, at his home in Toronto, age 71.

Mr. Temple was president and general manager of the Ash-Temple Co. which business he founded 49 years ago. He was highly respected by members of the dental profession in Canada and among his business associates in the Dental Trades. He was a man of quiet manner, active in his church life, charitable to many needing assistance and a friend of a host of people.

Surviving are his wife, three daughters, two brothers and one sister.



F. L. WILLIAMSON, D.D.S., Hamilton, Ontario
President, Ontario Dental Association
Graduated R.C.D.S. 1903
President, Hamilton Dental Association 1914-15

The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 10

TORONTO, JULY, 1944

NO. 7

Convocation Address, University of Alberta

by COLONEL G. L. CAMERON, D.S.O., V.D., D.D.S.,
M.D.S., L.D.S.,

Deputy Director General Dental Services, National Defence Headquarters, Ottawa.

I CONSIDER it a very great honour to have the privilege of addressing you today at your Convocation. It was my privilege for some years to be associated in an official way with your sister University of Saskatchewan, so as a fellow-Westerner on temporary duty in Eastern Canada, I feel very much at home among you today.

Knowing full well the extent of the graduating activities today, my remarks will be brief. In this connection, I am reminded of the often repeated story of the man who was addressing the graduating class at Yale University and divided his speech into four parts, each focussed upon a letter of the word "Yale", Y—for youth, A—for ambition, L—for loyalty and E—for enthusiasm. The speaker was dwelling at length on each letter and after spending 20 minutes on each of the first 3 letters, he launched forth on his final letter "E", when one yawning student muttered to his companion, "Thank heaven, we are not graduating from the Massachusetts Institute of Technology".

The Service which I represent is constantly in touch with your University through the School of Den-

tistry. The Canadian Dental Corps, serving as it does, all of the three armed forces, Navy, Army and Air Force, has had the most hearty co-operation from your University authorities. All the physically fit young graduates have been receiving commissions in the Canadian Dental Corps, and I can assure you from personal knowledge that they are rendering splendid service, not only in Canada, but in every part of the world where Canadian forces may be operating.

My duties during the past four years have taken me to many parts of our Dominion and beyond its shores, where I have had the opportunity to observe how our country is facing the task of prosecuting an all-out war effort. My mind naturally looked ahead and endeavoured to envisage the opportunity that Canada offered, not only to our own young people when released from war activities in the Armed Forces and in war industry, but also to the great number of people from war-torn Europe who will be seeking opportunities to start life anew in the Western Hemisphere.

Your own province of Alberta has been blessed with wonderful natural

resources. Her oil fields, her coal mines, her rich agricultural areas in the more settled portions of the province, are well known, but the potentialities of the great north are just beginning to be realized by the rest of the country and by the world. Air transportation and the construction of the Alaska Highway are opening up a new chapter in the history of Alberta and the North West Territories. Timber resources, new oil developments, rich mineral discoveries are but headlines in the chapter of great development of the North country in its incipient stages.

The strategic situation of this, your University city, with relation to this great development has made, and will continue to make Edmonton, of increasing size and importance among the cities of Canada.

It is possible that you young people, living so close to the developments I have mentioned, do not sufficiently realize their significance. Nature and destiny have provided you not only with a wonderful opportunity but with a challenge. Your Alma Mater has provided you with the training, and now the responsibility rests on your generation to meet the challenge, to make a notable contribution to the development not only of your own province, but of Canada as a whole.

It is needless to remind you that today you have reached a very important milestone in your careers, one which marks the point where you leave these academic halls and take your places in the great outside world, and what a world it is today! Torn by strife, the like of which has never been witnessed before in human history, entire nations and not merely armed forces are engaged in world-wide conflict.

Our first objective as a nation is to assist in bringing about the victorious conclusion of the war and towards this end all our national energies must be directed. Many of you who already are, or who will shortly become members of the Armed Forces will naturally fall into your places

in the great national effort. On becoming members of the Armed Forces, you must understand that three things are necessary for you to render the most effective service—a job to do, tools to do the job, and companionship at the job.

The first essential is a job to do. Your qualifications will be assessed and as far as possible, you will be placed where you can be most usefully employed. Specially trained personnel selection officers are responsible for such placements. It will be a job that makes demands on your powers of self-discipline, toughness and resourcefulness. It will be a job that has to be done by you personally. Many people will be depending on you to do it, and if you leave it undone, you will not only be letting down your comrades, but aiding the enemy.

When you have been allocated to a job, the next step is to see that you are provided with the necessary equipment to carry out the duties entailed. The Canadian people through their Government will have provided you with the very best training, and with the very best military and technical equipment available to any Armed Forces in the world. The ships on which you will serve, the tanks or guns entrusted to your care, and the aircraft which will bear you toward the stars, are the very best that inventive genius and manufacturing skill can produce. It is worthy of note in this connection that during the campaign in North Africa, Rommel's patrols were specially instructed to capture, if possible, Canadian-made mechanical transport vehicles, as they were considered to be the most effective for use in desert warfare.

Companionship at the job is the third point. The joint contribution of a group of individuals is usually greater than the sum of their individual efforts. In the Armed Forces, you will be closely associated with other young people, undergoing similar training, and later enduring to-

gether the hardships of campaigns, and finally sharing the exultation of victory. Thus, is esprit-de-corps built up—pride, not in one's individual effort, but pride in the accomplishments of the group. On the other hand, those of you who are not eligible for service will be welcome additions to civilian enterprise, and these same principles which are applicable in the Armed Forces will also apply to you in a lesser degree. Wherever your lot may be cast, we rely on you to do your utmost to further our national effort to help win the war.

The Universities of Canada have played, and are playing, an important part in our national war effort. Your own Alma Mater has a splendid record of service in this sphere of activity. Hundreds of her sons and daughters, graduates and undergraduates, are serving in the Armed Forces and many have made the supreme sacrifice. A number of decorations have been received for gallantry in action, and others have returned to us, broken in body as a result of service. Accelerated courses in some faculties, and shorter courses in specialized training for the Armed Forces, are among the wartime activities of your University. Scientific research is being fostered in every possible way and some notable contributions in this field have already been made by graduates and teaching staff of this University.

The founders of your University planned a comprehensive academic program. Culture was considered valuable and necessary but it was not all. Its pursuit exclusively for its own sake might fail to make good citizens. The same may be said for professional efficiency. It is of the greatest value, particularly in a fast growing country with vast projects of development and construction. That, however, is not the sole end of education. A University or a Country can develop professional skill and efficiency to a very high degree and yet miss entirely the habits and powers of mind and heart which are necessary to political freedom and

justice. We have had tragic illustrations of this in recent years.

It must be borne in mind that you have been bequeathed a training ground, neither for hard utility and technical skill alone, nor for culture alone, neither for the solely aesthetic nor the solely practical. It must combine the two and it must not develop one at the expense of the other.

History has been described as the uninterrupted conversation between yesterday and tomorrow. The historian of the future, in looking back on our activities today, will, I hope, be living in a happier world, a world more prosperous, a world from which fear of war, and fear of want have been removed, a world in which men and women will have ampler leisure for the enjoyment of the finer things of life.

As that future historian studies the records of our times, he will realize that we lived at a critical period in the history of Western civilization. He will observe the steps by which Canada mobilized her man-power and resources, for the long struggle. The story of the men who faced death fearlessly on sea, on land and in the air will be a familiar tale. He will trace the record of the grim struggle, part of which still lies ahead of us, and which ends in final victory, enabling our descendants to dwell in peace.

The story will not end at that point. He will discuss the policies of reconstruction designed to heal the wounds of war. He will study the great improvements in public health and education made by this generation and follow the slow development of economic and social institutions which were already well established before his time. He will note with pride the names of the men and women from this University who have made outstanding contributions to the developments of our country.

If this dream is to be fulfilled, it must be through the efforts of you who are receiving your degrees today and through the efforts of all other young people who will share your task during the years to come. The events of the

past 4½ years have definitely repudiated the accusations of those who complained that modern youth had lost its courage and its idealism,—no generation has shown greater courage, none has met reverses with more fortitude. Few generations have been more keenly aware of the fact that history never stands still. There is little of that desire to return to pre-war conditions, the desire that existed in 1917 and 1918, but instead there exists today a wide-spread recognition of the fact that after the conclusion of the war, we shall still confront most formidable problems of world rehabilitation and reconstruction.

The challenge presented by these problems is a task that demands the best in every one of us—the study of the scholar, the techniques of the scientist, the knowledge of the historian, and the careful judgment of the common man. Only when all of these are applied in generous measure to the tasks of reconstruction, will mankind be able to evolve that better society which we have envisaged.

The following statement by Abraham Lincoln could today apply with equal force. It, in short, concise, forceful form, places before the world today the aims of the people who are fighting the war for freedom. Reams have been written on the Post-War adjustment but none so completely sum up a charter for the workers as does this call to action spoken over three-quarters of a century ago by that great advocate of the government of the people by the people, "It is a struggle for maintaining in the world that form and substance of government, whose leading object is to elevate the condition of men—to lift artificial weights from all shoulders; to clear the paths of laudable pursuits to all; and afford all an unfettered start and a fair chance in the race of life".

Nelson's famous signal to his men at Trafalgar, reminding them of their duty to their country brings to mind another story of duty, told of the great President Abraham Lincoln in a conference of senior officers during

the American Civil War. Some one suggested the name of Major X for an important task. When another officer present intimated that Major X was not available, having been wounded several hours previously, President Lincoln who knew Major X to be lazy and generally unreliable, exclaimed "Wounded! then it must have been by the accidental discharge of his duty!" Never let that be said of you!

As University trained men and women you will be expected to exercise leadership in your respective spheres. In order to exercise that leadership intelligently, it will be necessary for you to keep abreast of current affairs and trends of thought, and above all, to do some independent thinking of your own.

This must be done in conjunction with keeping abreast of advances in your own vocation. Never cease to be students. Life has many lessons to be learned all along its course. Keep your eyes open and your ears attuned in order that you will constantly be absorbing the lessons to be learned.

As you leave the venerable precincts of this University, you carry with you the best wishes of your Alma Mater. Your teachers who have watched your progress over the past few years will follow your activities in the wider spheres of life. Endeavour to bring credit to them and to your University.

I would like to conclude by telling you the story of Sir Christopher Wren and the three stone-cutters and I tell it because it illustrates so well the spirit we should bring to our work. When the great architect was engaged in building St. Paul's Cathedral in old London, he came one day to three stone-cutters at work. Addressing one, he said "What are you doing, my man?" The man replied, "I'm making four shillings a day." Turning to another, Sir Christopher asked, "What are you doing?" to which the second man replied, "I take these blocks of stone as they come rough from the quarry, and shape them for the masons." Then Sir Christopher approached the third workman who was

chipping away industriously and asked him, "What are you doing, my friend?" The man replied, "What am I doing, sir?" and raising his eyes he pointed to the great edifice rising behind him. "What am I doing, sir? Why, I'm helping to build this cathedral."

And so, my young friends, when you are asked what you are doing in life, you will not reply, "I am preaching the

gospel, or healing the sick, teaching the young, providing food for the people, or building great structures," but rather, you will point to the great living cathedral of Canadian nationhood that is rising around you and you will reply, "I am helping to build this cathedral."

Edmonton, Alberta,

May 16, 1944.

CONVENTION

20th Anniversary — Montreal Dental Club

The program for the 20th Anniversary meeting, which will be held on October 25, 26, and 27, is rapidly taking form, and at this point would appear to be well up to the standard set by previous meetings. Among the clinicians appearing on the program will be:—

Dr. R. O. Dingman, Ann Arbor, Mich.—"Oral Surgery".

Dr. E. R. Granger, Mount Vernon, N.Y.—"Oral Diagnosis".

Dr. R. D. Sommer, Ann Arbor, Mich.—"Root Canal Therapy".

Dr. S. A. MacGregor, Toronto, Ontario.—"Children's Dentistry".

It is anticipated that several clinicians and essayists from the Canadian Dental Corps will also participate in the program, through the kind courtesy of Brigadier F. M. Lott, Director General of Dental Service, further details of which will appear in the near future.

Table clinics, group clinics, educational films, and a large and diversified commercial exhibit will round out the program.

Any dentist, in good standing, who is not on the mailing list of the Montreal Dental Club, and who wishes to obtain further particulars of this meeting will kindly forward his name and address to the Chairman,—

Dr. M. L. Donigan,
1414 Drummond Street,
Montreal, Canada.

Change of Address

Notice of change of address should reach the Secretary's Office before the first of the month in which the change is to take effect. Please furnish old as well as new address.

Members in the Military Services may have the Journal sent to home address or military address as desired. If the Journal is to follow you it will, of course, be necessary to keep the office posted about address changes.

In all cases, the former address should be given.

Address all communications to:—

Secretary, Canadian Dental Association,
211 Huron St., Toronto, Ontario.

Enameloid Acrylics--Jacket Crowns

by MAURICE N. STERN, D.D.S., Forest Hills, New York, U.S.A.

THE debut of enameloid acrylic as a highly desirable, aesthetic material for tooth tissue replacement, is very interesting. In the first place, it was the result of an avid desire for something better than the dental materials we had at hand from the standpoint of both aesthetics and durability. The fact that several dentists throughout the United States were experimenting with the material at the same time simply emphasizes an existing need for some such material.

The advent of enameloid in the commercial field came as a result of the findings of these early experimenters—some of whom used clinical methods of testing the aesthetic results and wearing qualities, while others augmented their clinical findings with scientific laboratory tests. When the publication of their experiences and findings created a demand for the material, the manufacturers came forward with enameloid acrylic under various trade names.

Unfortunately the sudden acclaim

Figure 1.

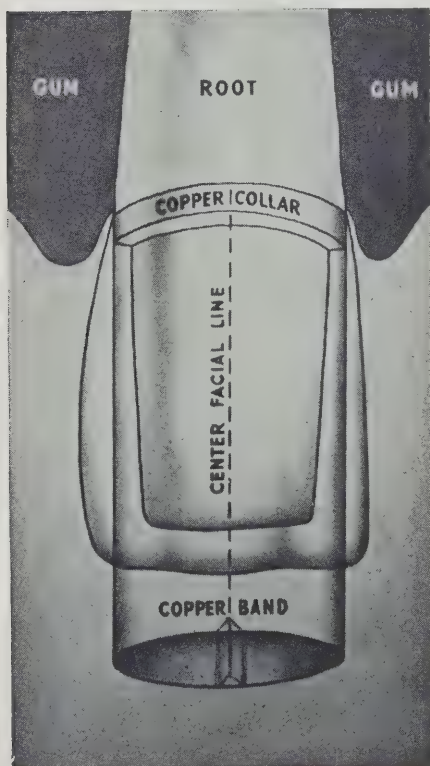
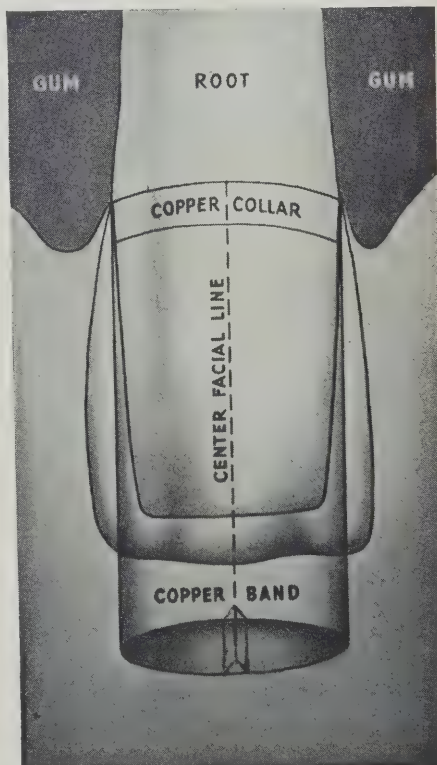


Figure 2.



and the widespread demand for enameloid acrylics led to exploitations of many forms. Inferior materials and inadequate training in the fundamental techniques, result in chaotic or haphazard colour control. The commercial field, under stress of demand, is working toward better standards as time goes on. The obligation of the dentist in this set-up is to learn the fundamentals of proper techniques based on the physical and chemical behaviours of the materials and not on the whim of some manufacturers, who prefer an easy road (technique) and thereby further confound the gullible purchaser.

Jacket crown preparations are of two basic forms—the shoulder jacket crown and the shoulderless jacket crown. (See Fig. 1 and Fig. 2.) The form of preparation for shoulder jacket crowns is the conventional one used heretofore for a porcelain jacket crown. The tendency of many operators to use porcelain where great bulk is possible, and resort to acrylic when little or no reduction of tooth structure is permissible, is flattering to acrylics, but leads to many failures. A very human characteristic is the habit of taking advantage of leeway. If things are made too simple for us, it engenders a further laxity that often results in failure.

The "Close Bite" Jacket Crown

Where the amount of reduction of the lingual aspect of upper anteriors, in close bite cases, becomes less than one millimeter, acrylic should not be depended upon to withstand the forces impounding the lingual of the jacket crown. A veneered enameloid acrylic jacket crown is the correct restoration, if such is the case. (See Figures 3, 4, 5 and 6.) A veneered acrylic jacket crown must be so built as to provide adequate grips for the enameloid acrylic, rather than depend upon a non-existent affinity of acrylic for gold. All this bears out a very

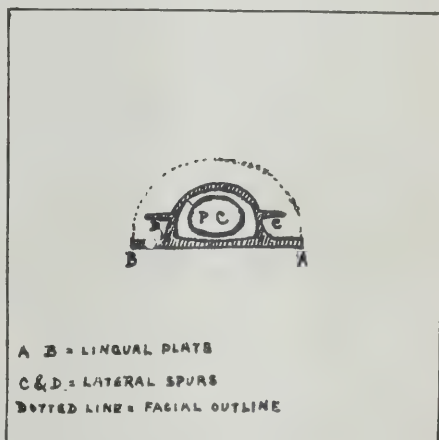


FIGURE 4

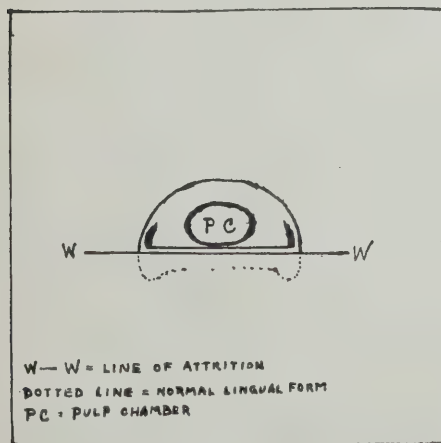


FIGURE 3

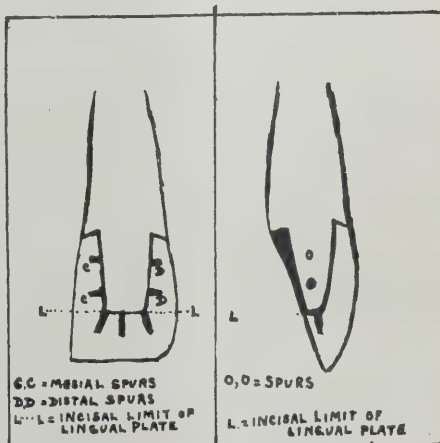


FIGURE 5

FIGURE 6

pertinent observation made by Dr. E. W. Skinner, on the engineering principles involved in dental restorations in regard to materials. "The design of a dental restoration is many times as important to its impact resistance as the physical properties of its materials." (Eugene W. Skinner, Ph.D., *The Science of Dental Materials*, 1940,—W. B. Saunders Co., Philadelphia, Pa.)

The need for a reinforced jacket crown occurs in close bite cases (in anterior teeth) where attrition has reduced the lingual plate of enamel so as to make reduction for ample bulk on the lingual hazardous. (See Fig. 3. W — W.) A reduction which permits clearance of less than one millimeter is an indication for a reinforced jacket crown.

A method for making the cast coping is as follows: a die is made of Diolite, immersed in oil for hardening. Using 28 gauge sheet casting wax, adapt the wax to the oiled die with the aid of an art gum eraser. Trim off overlap with a Bard Parker scalpel and tack wax thimble edges together with a hot instrument. Then add two small strips of 28 gauge wax from the mesio-lingual line angle to contact A (Fig. 4), and from disto-lingual line angle to contact B (Fig. 4). Next add two spurs on the mesial C (Figs. 4 and 5), and two spurs on the distal D (Figs. 4 and 5), facial to the contact plates (A) and (B). These are for grip of the acrylic to the casting. Lastly three spurs are extended from the incisal edge of the coping, also for gripping the acrylic. These three spurs are usually extended and used as casting sprues. (See Figs. 5 and 6.) The coping should be cast in hard gold.

The Shoulderless Jacket Crown

The need for a shoulderless jacket crown in lower anteriors in itself justifies enameloid acrylics. The technique I have used in many practical cases, since 1938 is one in which a template in the form of a copper

collar is used to obtain a subgingival dimension under the free margin of the gum and carries that dimension, by its physical presence in the wax pattern, to the mould, whence it is replaced by acrylic. This gives a well defined accurate lap joint, continuous with the root face under the free margin of the gum.

The lower incisors are prepared as follows: The incisal edge is reduced two or more millimeters—parallel to the occlusal plane. The facial and lingual surfaces are reduced just enough to allow for a thin layer of acrylic and to eliminate any and all under-cuts on either surface. The mesial and distal surfaces are paralleled, or slightly convergent toward the incisal, but as near parallel as possible. The important engineering principle often lost sight of is that the more cone-shaped the core of your preparation, the more danger of fracture, because of the wedge action of the inclined planes. And there is also a loss of retention as we go from the cylindrical core to the conical core. When the preparation is finished, take a wax bite.

The proper fitting of the copper band is very important for the shoulderless jacket crown. It must be a snug fit at the cervical preferably a small, under sized band spread to a friction-locked fit with a round-nosed contouring pliers. Also the band must be accurately festooned and extended one and one-half millimeters under the gum, all around the neck of the tooth. Scroll the outline of the gum margin on the copper band to guide reseating when taking the band impression. (See Figure 6A, A . . . FML.)

A pressure control stick is a very useful device in copper-band impression taking and it is almost a necessity in the shoulderless jacket crown technique. It is made as follows: Cut a one and one-half length of cotton wood, then grind a pair of finger-tip pinch notches on the middle of the stick. The use of this pressure control stick gives the operator

an opportunity to vary the applied pressure by varying the escape ports over the modeling compound-band assembly.

Place modeling compound in the band; heat and press to place, making sure that the band goes under the gum as before. Chill well; then mark the facial side of the band from the incisal edge of the band, to the gingival margin, with the center facial line. (C.F.L. . . . Figure 6A.) With the modeling compound well chilled, cut a V-shaped groove on the incisal of the modeling compound and band with a flat separating disk, running it from facial to lingual. (I.S. . . . Figure 6A.) Chill again, and take a plaster of Paris impression of the modeling compound and band in place. The copper band and modeling compound impression can now be removed from the plaster impression and a die packed. The die is packed in Diolite in the following manner to obtain a die with a tapered root:— First make a cone of celluloid film (old photographic film) held closed and in shape by Scotch tape. (Fig. 6A,B.) Second, make a reinforcing rod of a paper clip (Fig. 6A,C.) Mix Diolite and pack modeling compound impression and then pack celluloid cone—inserting reinforcing rod and assemble with modeling compound impression and allow to set. When set, remove the Scotch tape and celluloid cone. Next the root section of the die is filed to eccentric taper, well greased, and the copper band-modeling compound-die assembly is reset in the plaster impression. (Now the center facial line and the incisal groove on the copper band-modeling compound gives you perfect guidance in resetting the assembled die-band-modeling compound in the plaster impression). Pour a stone model. After the stone is thoroughly set, separate, and force the die-copper band-modeling compound from the stone model, through the hole made in the base of the model. Now scroll a line on the copper band, three millimeters from and parallel

to the festooned gingival margin of the copper band, with any sharp instrument, such as a scaler. (See 3MML in Figure 6A,A.) Heat, and remove band and modeling compound from the die. Now replace the die in the stone model and finish articulation of the model with the aid of the wax bite. Then remove the die from the stone model and immerse in thin oil, such as 3 in 1, or neat's-foot oil. This hardens the die and permits easy removal of the wax-up. Next, clean copper band of all modeling compound and, with a flat separating disk, cut a short slit through the copper band on the center facial line as it crosses the three millimeter scrolled line down to the scrolled gum margin line. Next cut off the 3 mm. collar as scrolled parallel to the gingival margin of the copper band. The outer surface of the copper collar should now be coated with sticky-wax, using a very hot instrument. Then replace the collar in its proper place on the die, watching the center facial line. Now proceed to wax the jacket crown, waxing directly to the collar band, so that the collar band becomes an integral part of the wax jacket crown pattern. The copper collar is removed from the flask, after the wax is boiled out, and the result gives a uniform extension of the acrylic jacket crown under the free margin of the gum. This method may be employed also with shoulder jacket crowns. It gives a sharp delineation of the peripheral limits of the shoulder, and if left on the shouldered jacket crown, automatically carries the cement line under the free margin of the gum.

Lower Posterior Jacket Crown—
Gold crown with an occlusal and buccal acrylic veneer.

The tooth is prepared without a shoulder. A dentometer measurement of the neck of the tooth is taken and a tight-fitting band of 22K. sheet gold, 32 gauge, is accurately festooned and fitted to place (Fig. 7). The upper edge is enlarged by flaring with a

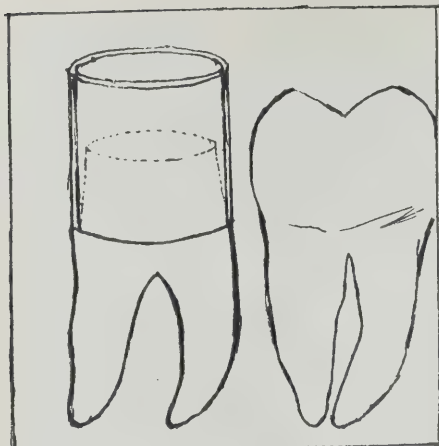


FIGURE 7

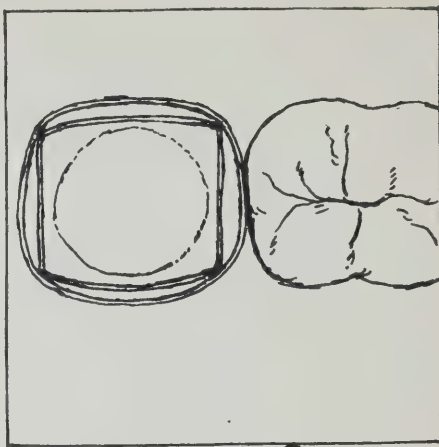


FIGURE 9

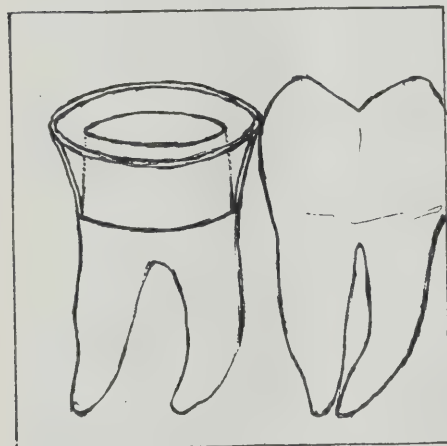


FIGURE 8

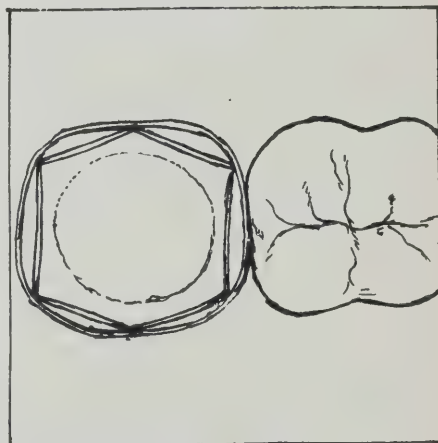


FIGURE 10

curved beaked contouring pliers until the upper edge diameter makes contact at the contact points of the adjoining teeth (Fig. 8). A tape one-half millimeter wide is cut from U.S. sheet monel metal gauge .018 or a similar tape of 22K. gold plate may be used. This is tacked on the inner aspect of the upper edge of the band in four spots first (Fig. 9), and then six spots (Fig. 10), using the smallest amount possible of 585 solder, fluxed with borax. The band is now seated on the tooth, checked and either waxed up or an impression taken (plaster

of Paris), and then proceed indirectly.

Whether the pattern is of the shoulder or shoulderless, direct or indirect; the method of proceeding with the pattern is as follows:

Jacket crown patterns should not be invested with their dies. Plaster of Paris two parts to one part of diolite is the medium of investment used. It should be about the texture of sweet cream. First fill the lower half of the flask (the half with the flange continuous with the inner surface), with the soft investment, then paint the inside and lingual surface

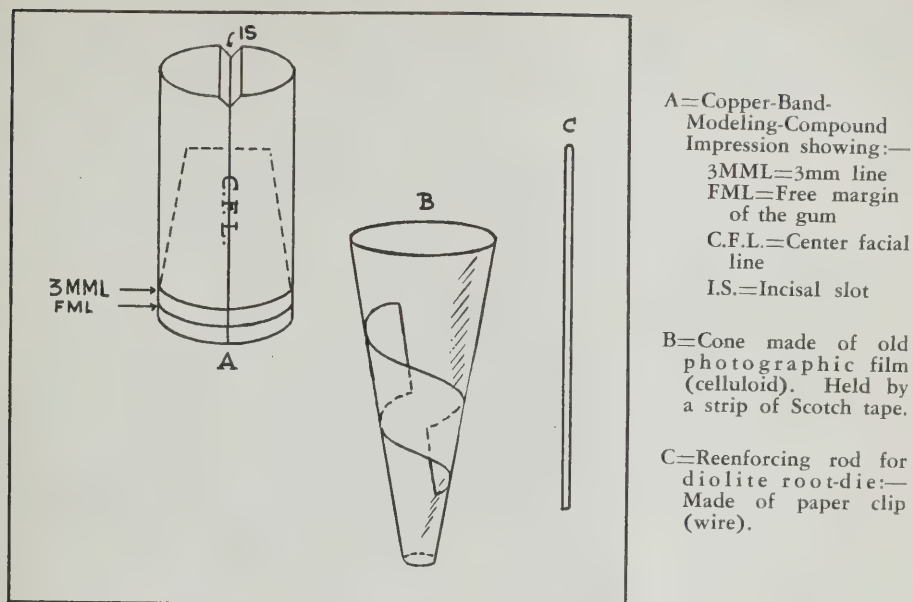


Figure 11.

of the wax pattern with the soft investment, being careful to avoid bubbles. Set the jacket crown pattern down on the soft investment. A brass "wood" screw (of small diameter), is used to reinforce the investment "core". The tip threads of the screw are painted with soft investment and inserted in the already filled lumen of the jacket crown (as it sets on the investment surface). Submerge the pattern to such a point that the entire facial is exposed, as well as at least one-half of the mesial and distal surfaces. Then tease the soft investment over the upper half of the screw so that the facial surface of the wax pattern at the cervical and incisal will be continuous with the investment surface, causing a mound-like elevation, the axis of which would simulate the axis of the tooth. When the lower half is set the surface of the investment is made as smooth as possible—painted with soap solution—and the counter is poured. Avoid bubbles over the wax surface by painting the soft plaster onto the wax pattern. Then when the flaked case is completely set,

place it in boiling water for five minutes. Separate the halves, and thoroughly flush out all the wax with the aid of a syringe.

General Considerations

The mass of (plastic) acrylic contains excess monomer which diffuses readily into the surrounding porous walls of the mould. This monomer penetrates into the plaster and is polymerized beyond the mould boundaries causing oversized inlays, and undersized jacket crowns.

The above will not occur if the case is properly sealed. A surface sealer is used, which gives a glass-like coating of uniform thickness and prevents the monomer from leaving the limited dimensions of the mould. Sodium silicate is used for this purpose. But, as is the case with the most expensive paint, if used on a porous unsized wall, the surfacer will not seal safely, but cracks and wafers off. Perfect sealing of the mould, therefore, is made possible by the first of the two following solutions, known as the sizing solution. (Solution No. 1.) This penetrates deeply into the

porous mould and later bonds with the more viscid surface sealer solution. (Solution No. 2.) It is an entirely efficient substitute for tin foiling.

The following technique will give you clean inlays, jacket crowns, etc., free from adherent plaster, or other investment material. The sealer is applied after the case is entirely wax-free, hot or cold.

Step No. 1. Using a small fine quality sable hair brush, paint the inside surfaces of the mould thoroughly with solution No. 1. This breaks the surface tension of the liquid. Then *submerge* the lower half of the flask in solution No. 1 *for ten minutes*. This acts as a sizing solution, penetrating into the pores of the plaster and later bonding with the more viscid surface sealer. Remove from the solution and thoroughly blow dry.

Step No. 2. Paint the inner sur-

faces of the mould with solution No. 2, *let stand for three minutes*; then take up all excess with a dry sable hair brush, carefully, dipping into line angles of the mould, using the brush as you would bibulous paper or any other capillary means of absorbing excessive liquid. When all excess of solution No. 2 has been removed, allow to dry for five or ten minutes (do not blow dry).

Solutions Used

Solution No. 1:—One part of sodium silicate (specific gravity 1.380) to ten parts of water. To each quart of solution No. 1 add one dram of Aerosol O.T. 1—1000 (Eimer and Amend). This lowers the surface tension and gives more perfect penetration of the sizing solution.

Solution No. 2:—Two parts of sodium silicate (specific gravity 1.380) to one part of water.

Identity Desired

Mouth examination of unidentified man at city hospital, Hamilton, May 2, 1944, by Dr. F. P. Moore.

Maxilla

All natural teeth missing and replaced by complete upper denture of recent make—

Base: Lucitone

Teeth: Anterior six, Dentists Supply Co.—New Solila shade No. 9, mould 10. Posteriors New Hue Diatorics 20 degrees.

Mandible

All natural teeth missing except as follows: right cuspid, right lateral, right central and left central.

Missing teeth replaced by partial denture with dark maroon vulcanite base and gold wire clasps over right

cuspid and left lateral incisor.

The body was found in the Bay at the foot of Queen Street, Hamilton, Ontario on Thursday, April 28, 1944. This body is that of a well developed adult, white male measuring 5' 10" in length and weighing about 190 lbs. and age 35-45 years. The hair is black, slightly curly, tinged with grey in the temples and bald on the top. The eyes are dull grey and the pupils are indistinct. The right forearm on its posterior aspect shows a tattoo of four crossed flags with a scroll showing the initials N.F.—1915.

Clothing: shirt—Sigal Shirt Laundry; Mark—H. X. 1; size 16; Suit coat label—Empire Clothes, Montreal.

Communications should be addressed to Dr. F. P. Moore, Hamilton, Ontario.

In theory it is easy to convince an ignorant person; in actual life men not only object to offering themselves to be convinced, but hate the man who has convinced them.—Epictetus.

Sulpha Drugs^{*}

by DR. F. H. COTE, Ottawa, Ontario

Nomenclature

Sulpha for "sulphonamides".

Really sulphones with an amino group.

Essentially a benzene ring with an amino group in the para position with respect to the sulphonamide radical.

The para position is the essential feature.

Are called chemotherapeutic drugs or agents—an old name only recently popular.

Any chemical used for therapy is a chemotherapeutic agent—lead, gold, etc.

History

"Dogmak". Prontosyl and streptococcic infections in mice. Only since 1935—(known before 1908—prontosyl-dyes) Past 8 years—over 1300 sulpha compounds studied but only a few have withstood test—over 6000 possible permutations.

Drugs available

1. Sulphanilamide 1935 — Dogmak—neo-prontosyl and prontolyn.
2. Sulphapyridine 1938 — Whitby—693 or daganan or Dagenham.
3. Sulphathiazole 1939—(Fosbinder and Walter; Lott and Bergeim).
4. Sulphadiazine 1940—(Roblin, Williams; Winnick—English).
5. Sulphaguanidine 1940—Marshall—intestinal antiseptics.
6. Sulphasuxidine 1941 — Poth and Firor.

Chemistry

All white powders—odourless, tasteless.

Na. salts. Soluble up to 5% in distilled H₂O.

Alkaline—unstable to heat.

Mode of action

(a) Harmless in ordinary doses—except promin. They are absorbed readily by any portal. Peak of intestinal absorption is 4-6 hours. Following absorption they remain in the blood for a variable time—are distributed uniformly in the tissues and excreted mainly by kidney.

(b) *They act by bacteriostasis.*

1. Not bacteriocidal—don't kill the germs, neither antiseptics.
2. Don't enhance the body defenses.
3. Don't neutralize toxins.
4. Stimulate—or facilitate phagocytosis—not necessarily so.
5. They inhibit the multiplication of the germs (bacterio-stasis) and then allow the phagocytes and body defenses to act.

(c) *Theories of Mode of Action—unknown.*

1. Peptone theory—Lockwood.
2. Peroxide—catalase theory—Melton.
3. Oxidation theory—Fox Shaffer.
4. Para-amino benzoic acid theory—Lockwood—the one held at present—(Prevent bacteria from using a nutritive factor such as para-amino-benzoic.)

(d) *Anti-sulphonamides — or inhibitors.*

Pus, débris and dead tissue, peptone, procaine hydrochloride, para-amino benzoic acid.

(e) *Sulphonamide "potentiators".*

Mild oxidizing agents—Azochloramide; Allantoin; Urea.

(f) *Conditions for effectiveness—*
Sufficient concentration; Susceptible organisms; Leucocytes.

Drug Resistance

1. *Natural*—some germs they won't

^{*}Presented at Eastern Ontario Dental Association, September 21, 1943.

affect (e.g. anaerobes, viruses).

2. *Acquired*—some germs become sulphonamide resistant, happens if
 - (a) give sub-optimal doses;
 - (b) over a long period of time.

If a germ becomes resistant to one of the sulphonamides it usually becomes resistant to all of the series. The change is permanent. Possibly will have one day all "sulphonamide resistant" strains.

Corollary.

Never use drugs unless—a serious condition presents high doses; short periods.

Forms in which drugs available

1. Powder—dusting powders, sachets, etc.—only effective when in solution. Can be sprayed, e.g. burns.
 2. Tablets.
 3. Emulsions, suspensions and creams.
 4. Crystals and microcrystals.
 5. Ampoules—Na salts in 5% sol of distilled H₂O.
- Hundreds of preparations.

Routes of administration

1. Mouth—most commonly.
2. Intravenously—solu daganan—soluthiazole.
3. Intramuscularly.
4. Subcutaneously.
5. Locally—1939—Jensen and others first in compound fractures. Eyes, ears, mastoid, wounds, sockets, etc., etc.
6. Rectum — useless.
7. Cerebro-spinal fluid — methenamine.

Range of effectivity

Increases with the type.

Sulphanilamide — sulphapyridine — sulphathiazole—sulphadiazine.

Exceptions—693—for meningitis of meningococcus, pneumococcus, streptococcus.

Detoxification

By liver mainly.

Acetylation of the para-amino groups—the acetylated cpds are inactive. These salts insoluble in urine and may precipitate in kidney. One

reason for giving soda was to alkalize urine.

Distribution

Well throughout tissues. Except sulphathiazole for spinal fluid.

Lowest concentrations in skin, brain, bone, fat.

Concentration in spinal fluid—no parallel to that of blood.

Dosage & mode of administration:

Orally—

1. Optimum blood concentration—5—10 mgm % — some up to 18%.
2. Do not limit fluid intake—give up to 3000 c.c. and at least 1000 c.c. of urine.
3. Heavy doses to start—40-60 grs., then 7-15 grs q. 4H., day and night.
4. Rules—1-2 grs per pound of body weight.
5. Stop them if no improvement in 3-4 days.
6. Do not do blood levels every day now.
7. Can give barbiturates—soda not necessary.
8. Pt. preferably in bed. T.P.R. and urine exam.

Intravenously

The straight ampoule—alone, or in an intravenous. Highest concentrations.

Local Use

Get very high concentrations up to 200 mgms %. Quickly absorbed—8-24 hours. Amount varies—2-5 gms down to several grains. Dose—1/10 gm, 1 sq. inch. Has to be repeated.

Dangers of Sulphonamides

Three main ones—fever, kidney damage, granulopenia. No relation to dose. Question of sensitivity and sensitization—2 years.

1. Blood — Granulopenia — after 10 days. Anaemia—prontolyn especmeth-hemoglobin-anaemia recurs on further therapy.
2. Fever—Up to 103—105. Low grade.

3. Skin—Numerous and varied types rashes—more in sunlight, ultraviolet. Conjunctivitis.
4. Kidney—Precipitation — calculi—oliguria and anuria. Casts—R.B. cells—Importance of urinalysis.
5. C.N.S.—
 - (a) Vomiting — 693 especially, Vitamin C doubtful value. Repeat vomited dose.
 - (b) Depression up to psychoses.
 - (c) Neuritis — promine bad offender.

Diseases treated by Sulphonamides

1. Some conditions in which sulphonamides excellent;

Medical

Pneumonia, Meningitis, Gonorrhea, Urinary tract infections, Hemolytic strept—A infections, (Puperal sepsis, etc.) Staphylococcal infections, Skin infections—(Impetigo, pyogenic infections) Dysentery—ulcerative colitis.

Surgical

Peritonitis, Gas bacillus, Actual and potential wound infections. Various

infections—of E.N.T.—mastoid; Erysipelas—Ludwig's sinusitis.
Burns.

Dentistry

Chewing gum—sockets—fractures, etc.

II. Conditions in which they have been reported to be of some value:

Pemphigus—lupus—plague.

Influenzal meningitis.

Actinomycosis—Brucelle abortus.

Hemolytic strept B.

Subacute bacterial endocarditis.

III. Conditions where useless:

T.B.—Polio, Rabus; Viruses—Influenza, measles, etc.; Enterococci—typhoid; Tetanus, etc.; Rheumatic fever.

Choice of drug

Ordinary cases order—Sulphadiazine, Sulphathiazole, Sulphapyridine, Sulphanilamide.

Sulphapyridine better for meningitis of Meningococcus, Pneumococcus, Strept.

Intestinal antiseptics — Sulphasuxidine, Sulphaguanidine.

"Young men, have confidence in those powerful and safe methods, of which we do not yet know all the secrets. And whatever your career may be, do not let yourselves become tainted by a depreciating and barren skepticism, do not let yourselves be discouraged by the sadness of certain hours which pass over nations. Live in the serene peace of laboratories and libraries. Say to yourselves first: 'What have I done for my instruction?', and as you gradually advance, 'What have I done for my country?' until the time comes when you may have the immense happiness of thinking that you have contributed in some way to the progress and to the good of humanity. But, whether our efforts are favoured or not favoured by life, let us be able to say when we come near the great goal, 'I have done what I could'."—Pasteur, at the celebration of his seventieth birthday, in the great theatre of the Sorbonne.

If a man runs after money, he's money-mad; if he keeps it, he's a capitalist; if he spends it, he's a playboy; if he doesn't get it, he's a ne'er-do-well; if he doesn't try to get it, he lacks ambition; if he gets it without working for it, he's a parasite; and if he accumulates it after a lifetime of hard work, people call him a fool who never got anything out of life.—Vic Oliver in the "Daily Sketch".

Schoolmaster Abroad

QUESTION:

WHEN A 2 PER CENT PROCAINE HYDROCHLORIDE SOLUTION DOES NOT PRODUCE A PROFOUND ANAESTHESIA IS IT ADVISABLE TO USE A STRONGER SOLUTION?

ANSWER:

Taken from paper entitled "Use of Higher than Usual Concentrations of Procaine Hydrochloride in Dentistry" by Stanley A. Lovestedt, D.D.S., Section on Dental Surgery, Mayo Clinic, Rochester, Minnesota; and appearing in the January, 1944 issue of the American Journal of Orthodontics and Oral Surgery.

"In dental procedures in which procaine is indicated, such as in the extirpation of pulps, the preparation of extremely sensitive gingival cavities, the surgical removal of gingival tissues, in difficult extractions, or in cases in which the teeth to be removed are tender to percussion, have a pulpitis or have periapical granulomas, the failure of 2 per cent solutions to provide anaesthesia may be avoided by the use of stronger solutions. Concentrations of procaine greater than 2 per cent were first used by the Section on Dental Surgery at the Mayo Clinic more than ten years ago, owing to the occasional failure of a 2 per cent solution to provide adequate anaesthesia. Since then, concentrations of procaine greater than 2 per cent have been employed in many dental operations, especially in cases in which it has been possible to predict the inefficacy of a 2 per cent solution. When failure to obtain profound anaesthesia has necessitated a second injection, higher concentrations have been used, since by experience it had been found that the second injection of the same concentration of procaine did not in-

crease the depth of anaesthesia. Solutions of 3 or 4 per cent have been most commonly employed, although higher concentrations have been used.

Too often the failure to obtain sufficient depth of anaesthesia has had a direct bearing on the outcome of the work at hand and has instilled in the patient an undesirable attitude toward future dental care. In view of the amount of procaine used in local anaesthesia for surgery on other parts of the body, no concern need be felt for the relatively small amounts employed in dental anaesthesia. Psychic disturbances too often are mistaken for sensitivity to procaine, as true procaine idiosyncrasy is rare.

The results obtained by the use of higher than usual concentrations of procaine hydrochloride have been entirely satisfactory, particularly in regard to the adequacy of anaesthesia and the freedom from untoward reactions, during injection, during operation, or after operation."

ANSWER:

Taken from paper entitled "Thirty Practical Surgical Tips" by George A. Morgan, D.D.S., of Toronto, and appearing in the February issue, Journal of the Canadian Dental Association.

"No doubt, in some cases unsatisfactory anaesthesia is due to failure to deposit the solution at the proper site, but in most cases it is due to failure of the anaesthetic agent to produce adequate anaesthesia, particularly when used for blocking a nerve of considerable size.

"There has been a wide-spread conception that a concentration of procaine hydrochloride greater than 2 per cent could not be used safely, and for this reason, concentration higher than this was never used. In the

amounts used for difficult dental operations a 3 per cent or even a 4 per cent solution will produce more profound anaesthesia. Profound anaesthesia is dependent generally on the concentration and not on the amount of the solution, and the concentration necessary is in direct proportion to the size of the nerve to be anaesthetized.

"Anaesthesia also is influenced by the sensitivity of the nerve endings; therefore, a more concentrated solution is indicated in extraction of teeth which have become hypersensitive to percussion, and probably even more for preparing cavities in teeth that are hypersensitive—3 per cent or 4 per cent solution."

QUESTION:

WHAT IS THE BEST TYPE OF SUTURE TO USE IN DENTAL SURGICAL OPERATIONS?

ANSWER:

The following answer to these problems is taken from a paper entitled "Oral Surgery in General Practice" by Reed O. Dingman, D.D.S., M.D., Associate Professor of Oral Surgery, School of Dentistry, University of Michigan, which paper appeared in the January, 1944 issue of the Illinois Dental Journal.

"Many different types of suture materials are available, all excellent. Some surgeons prefer the use of absorbable sutures, whereas others prefer to use non-absorbable sutures. During the past two years in my own practice and at the dental school, we have been using cotton sutures. Cotton is very kind to the tissues and, except for metal, causes less tissue reaction than any other suture material. For that reason cotton is excellent. It is not necessary to use a specially prepared cotton. Spools of ordinary good grade cotton thread, No. 40 or 50 black, may be purchased at the ten cent store. It is cut up in desirable lengths for use as suture material, tied on the needle, coiled and sealed in coin envelopes. The envelopes are sterilized by autoclave and are kept in the cabinet where they are always ready for use. Several are made up at one time. Sutures may also be sterilized by boiling or by dry heat.

"Black cotton is used instead of white because it offers a certain contrast against bloody tissues that white does not give. White sutures are no longer white after once passing through the tissues and are difficult to see because of lack of contrast. Curved cutting needles ($\frac{1}{2}$ circle cutting edge) are best for oral use."

Dentistry with the consent of the public operates as a legalized monopoly. As long as the public approves such arrangements, dentistry may continue to determine who can enter the profession, set its own qualifications and standards, discipline its members, price its services without any comparison in value and act as sole judge of the quality of these services. If the public ever believes that the privileges of monopoly are being abused for personal gain, dentistry might become as regulated and fettered as the public utilities.—Tic.

An old Chinese philosopher has said of a gentleman: "To see clearly; to understand what he hears; to be warm in manner; dignified in bearing; faithful in speech; painstaking in his work; to ask when in doubt; in anger to think of difficulties; in sight of gain to think of right!"

The Forum

NUTRITIONAL DEFICIENCIES AND DENTAL CARIES IN NORTHERN INDIA

by C. D. MARSHALL DAY, Ph.D., D.M.D., M.S., B.D.S., F.I.C.D., Dean of Faculty of Dentistry,
Punjab University

Conclusion of paper in British D. Jour. March 17, 1944

A REVIEW of the literature emphasizes the present unsatisfactory state of our knowledge with regard to the importance of the fat-soluble vitamins and minerals in relation to dental caries.

Reference is made to the state of nutrition and associated factors in the Kangra District of Northern India where a large proportion of the population suffer severely from malnutrition and where rickets and osteomalacia are extremely prevalent.

A series of investigations is reported, the results of which and the conclusions drawn are summarized below:—

(1) As a result of a preliminary investigation on a small group of children it was found that almost perfect teeth with a very low incidence of dental caries were compatible with severe clinical rickets radiologically confirmed. 40 per cent were caries-free and the average caries incidence only 1.4 cavities per child.

(2) A second investigation showed a similar low caries incidence in a group of women suffering from severe clinical osteomalacia. Over 36 per cent were caries-free and the average was only 1.5 cavities per head.

(3) The cause of the severe osteomalacia was the extremely poor diet associated with frequent pregnancies and long-continued breast-feeding.

(4) Rickety children born of these osteomalacious mothers showed a similar comparative immunity to caries.

(5) In view of the occurrence of al-

most perfect teeth coincident with severe decalcification of the bones by osteomalacia it would seem that the assumption of the association of dental caries with pregnancy needs further careful study.

(6) As a result of the finding of almost perfect teeth in children and women with severe rickets and osteomalacia respectively, it was concluded that the calcification and decalcification of the bones are not necessarily connected with the same processes in the teeth; further that immunity to dental caries, relative or absolute, is not necessarily dependent upon a sufficiency of the "protective" foods, specific vitamins or mineral salts.

(7) Further investigations on a large scale only served to confirm these results. In a group of 200 boys living under comparable conditions in the villages until calcification of the teeth examined was complete, a total of only 313 cavities was found in 5,457 teeth despite the inclusion of defective fissures and cavities in temporary teeth retained long past their normal span. The average number of cavities per mouth was only 1.56 and 83 per cent of the total was first degree caries. Only 6 cavities were found in the 1,600 incisor teeth.

(8) No correlation was found to exist between (a) the degree of clinical rickets and hypoplasia; (b) the incidence of hypoplasia and dental caries; nor (c) the incidence of rickets and dental caries.

(9) Cases with positive signs of a

deficiency of vitamin A showed no increased susceptibility to dental caries.

(10) Almost without exception the few cases showing a comparatively high caries figure had a history of chronic sepsis, T.B., or repeated attacks of fever.

(11) The incidence of gingivitis (81 per cent), salivary calculus (82 per cent) and dental plaques (98 per cent) was extremely high but showed no relation to dental caries.

(12) The incidence of malocclusion was approximately half that noted in the much more adequately nourished city children in India.

(13) This entire group of 200 boys was born, probably of deficient mothers, and lived during the whole calcification period of the teeth and afterwards, in a district where the prevailing economic conditions are extremely poor; where the markedly ill-balanced diets consist mainly of "decalcifying" cereals and contain almost negligible amounts of the "protective" foods such as fruits, green vegetables, milk and milk products; and where animal fats, animal protein, calcium and the vitamins A, C, and D are present in the diet in markedly inadequate quantity. A very high percentage was much below normal weight and height and showed many other defects. Of the 200 in the final group examined 87, or 43.5 per cent showed signs of clinical rickets. Yet, despite the irre-

futable evidence of deficient diets and the positive signs of a lack of the essential food factors, no fewer than 111, or 55.5 per cent had no cavities in the permanent teeth, and 98, or 49 per cent were entirely caries-free.

(14) Besides the outstanding features of imbalance, preponderance of cereals and inadequacy of protective foods the Kangra Valley diet has certain other important characteristics. The diet is notable for its detergent properties which ensure cleansing of the susceptible area and gradual elimination of susceptible pits and fissures in the tooth surface through attrition. The infrequency of meals and the absence of eating between meals, the consumption of natural unrefined food-stuffs and the almost complete absence of sugar are other points worthy of note in the dietaries and food habits of the inhabitants of this region and doubtless important factors in their comparative immunity to dental caries.

From these investigations it would therefore seem reasonable to conclude that a diet nutritionally sound according to our modern concept has little if any bearing upon caries immunity; that the vitamin and other deficiency hypotheses are untenable; and that the physical nature of the foods and the maintenance of the traditional diet are factors of infinitely more importance in the prevention and control of dental caries than the chemical and vitamin content.

SULPHONAMIDE MEDICATION

by STANLEY W. CLARK

Professor of Materia Medica, Therapeutics, and Anaesthesia, Northwestern Univ. Dental School.

Excerpt from Northwestern Uni. Bull., Spring 1944.

TOOOTH sockets do not heal readily unless the pH of the healing sockets is below seven. The work of Milton S. Taubman on the pH of healing sockets revealed the fact that when the cellular contents of the post-extraction field rose above seven there was a demonstrable retardation of healing which persisted until the con-

dition was corrected. The sodium salt of sulphathiazole, for instance, produces a pH above eight or nine, and therefore should not be used in tooth sockets. Also, because of their solubility, it is well to avoid using any of the available sodium sulphonamides locally in the mouth.

RENAL COMPLICATIONS FROM SULPHONAMIDES

IF RENAL complications should follow administration of sulphonamides, the treatment should consist of forcing fluids and alkalis. Application of external heat to the abdomen has been suggested by several authors. Heat may be supplied by means of hot water bottles; or deep heat may be applied by short wave diathermy. Ureteral catheterization and pelvic lavage and decapsulation of the kidneys have been used successfully by some surgeons in treating severe cases involv-

ing anuria. However, lavage of the renal pelves, and decapsulation will not relieve renal failure if too much kidney tissue has been damaged, and the prevention of crystalluria and hematuria should be foremost in our thoughts while using the sulphonamides. If these conditions develop, the drug should be stopped immediately, to avoid too great renal damage, leading to the nearly always fatal complication of anuria.—Excerpt from *Jour. of Oral Surg.*, Jan., 1944.

PHYSICIANS AND THUMB-SUCKING

Editorial in Am. J. of Ortho. and Oral Surgery, Aug. 1943.

A MERICAN babies are making themselves heard. They are becoming an important segment of American society because there are so many of them in the age group of four and under. They have become accustomed to rubber nipples, nursing bottles, and to waterproof appendages, many of which have become a necessity to well-regulated baby lives.

When the rubber shortage became really serious, petitions for relief poured into the War Production Board. The question was referred to the Committee on Drugs and Medical Supplies of the Division of Medical Sciences of the National Research Council. This body of scientists conducted a survey among leading pediatricians, who were requested to indicate whether or not time-tried soothing devices were essential to the health program to the extent of: (a) being practically indispensable; (b) not indispensable but highly desirable, if available; or (c) not essential.

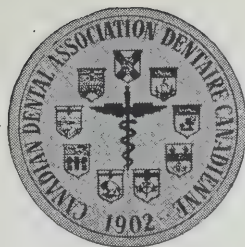
Replies received from a number of pediatricians revealed that only one considered teethingers essential, and six considered them desirable. Thus the vote was overwhelmingly against the essentiality of these devices.

These eminent medical experts, in an effort to contribute something to the situation and assist in its solution, suggested a substitute which might, in these abnormal times, be used to compensate for the lack of aids to pacifica-

tion. Almost unanimously the experts, when requested to suggest a substitute, opened their mouths and placed their thumbs inside.

The average medical man knows clinically little about local habits as an aetiological factor in malocclusion because he has never struggled for months to help correct the incidental anomalies. This facetious gesture of the doctors with thumb in mouth, nonetheless, having received nation-wide publicity, will not be without repercussions to the thinking of mothers of young America.

To those who are accustomed to hazard a guess as to future trends of things physical, it would seem reasonable to suppose orthodontic practice may be due for a marked up-trend in about the years 1947 to 1951 and beyond, because the doctors with thumb in mouth gave the green light to at least one of the things known as a local cause of malocclusion. This "go" signal accompanied with nation-wide publicity, featuring doctors with thumbs in their mouths, would make a good movie short to be used to teach medical students that there is much to be learned in recorded orthodontic scientific literature that every young doctor should know. It might, also, indirectly reveal to him that a "sure fire" for wide publicity for the medicos is for a group to stand with thumbs in mouth when asked questions about jaws and teeth.



Editor: M. H. GARVIN, Winnipeg

Assistant Editor: T. R. MARSHALL, Toronto

Associate Editors:

PRINCE EDWARD ISLAND:

D. T. Wayne, Charlottetown

QUEBEC:

E. M. Laurin, Montreal

SASKATCHEWAN:

F. C. Harwood, Moose Jaw

NOVA SCOTIA:

S. G. Ritchie, Halifax

ONTARIO:

T. R. Marshall, Toronto

ALBERTA:

John Clay, Calgary

NEW BRUNSWICK:

W. C. Carruthers, Saint John

MANITOBA:

J. F. Morrison, Winnipeg

BRITISH COLUMBIA:

H. M. Cline, Vancouver

Sulphonamide Compounds in Dental Practice

It was reported in Time Magazine of May 8, 1944, that Toronto General Hospital has reported its 20th death in four years from sulpha drug poisoning, three within the last month. Victim number 18 was a young man whose doctor had prescribed 12 sulphathiazol tablets for a tooth infection last summer. He used 12, bought another box and took 8. A few weeks later he took 3 more and became very ill. Autopsy showed kidney involvement, damaged liver and heart, etc., according to the report. Death was attributed to self dosage of sulpha drugs.

Because these drugs are dangerous as well as life-saving, and because of the many implications involved in the prescribing of these drugs, this Journal has carried a number of authoritative articles on the subject within recent months. We have been told that when certain forms of heart disease exist, that the patient should receive premedication with a sulpha drug before extracting a tooth. Undoubtedly there are heart cases where this procedure should be followed but the decision should rest with the physician and this drug should be prescribed by the physician. If the patient has a history of rheumatic fever, chorea, or any definite heart disturbance, the dentist should contact the patient's physician. However, from evidence at hand, it would not seem the part of wisdom to prescribe some sulpha compound in every case involving the slightest heart disturbance.

Fairly recently, I read an article in a dental journal advising dentists to prescribe sulphathiazol in the treatment of periodontal disease. This pro-

cedure cannot be too severely condemned. In articles which appeared in the March issue of this Journal, a number of statements were made which deserve much emphasis and have a bearing on the subject under discussion. Osgood, of the Department of Medicine, University of Oregon, states that the institution of therapy with one of these sulphonamide compounds is indicated when clinically, and ideally as soon thereafter as practicable, bacteriological diagnosis indicates that the disease process is due to an organism which is susceptible to the action of the drug; and when the disease has a morbidity and mortality greater than that which is to be expected from the drug, under the circumstances in which the drug is to be used. Apply these principles to the treatment of periodontoclasia and the answer is simple. Don't prescribe sulphonamides.

Osgood states also that these drugs are ineffective against the majority of virus infections including all the common virus infections of the respiratory tract. How many of us dentists have had prescribed for our own use some sulpha drug in the treatment of the common cold! In the use of these drugs, it is stated that the death rate is far higher than that from a general anaesthetic with ether. D. D. Sutliff, in the J. A. M. A., January 30, 1943, estimated that in 1941 in New York City, there was one death in every 1610 cases of pneumonia resulting from complications associated with sulphonamide therapy. In the Connecticut M. Jour. of January, 1943, P. H. Long estimated that 5000 deaths a year result from the use of sulphonamides. Dozois of the Lederle Laboratories of Los Angeles, as reported by Clay in the February Journal, states also that it would be dangerous to suggest that any member of the sulphonamide family should be used in the prophylactic treatment of the common cold, that sometimes harmful reactions to the drugs may occur with even small doses and no method has been devised by which one can forecast a drug sensitivity or susceptibility in the patient.

Willius and Brown of the Section on Cardiology of the Mayo Clinic in a splendid paper appearing in this same March Journal point out the dangers of the development of the so-called sensitivity reaction which may occur as late as two years after the drug has been administered originally and may follow the original oral, parenteral or local administration of only a small amount of drug and that this may occur at a time when a serious infection is present and when the use of the drug is desired urgently but must be denied the patient. They further state that "sensitivity reaction" constitutes a contraindication to the indiscriminate use of sulphonamide compounds, in the treatment of colds and minor infections, but not contraindicated in dealing with as serious an entity as subacute bacterial endocarditis.

From such statements as these and many others, we can come to but one conclusion and that is that this form of chemotherapy must be instituted by physicians and by physicians equipped with the knowledge and experience necessary to reduce to the minimum the dangers which lie just around the corner. P. H. Long has found that the incidence of toxic manifestations such as rash, hemolytic anaemia, leukopenia, agranulocytosis, hematuria, oliguria and hepatitis, was 11.9 per cent with sulphanilimide therapy, 15.9 per cent

with sulphapyridine, 18.6 per cent with sulphathiazol and 6.5 per cent with sulphadiazine and that experiments to date would indicate that sulphamerazine has about the same toxicity as sulphadiazine.

Dozois states that of all the drugs, sulphadiazine is the outstanding drug of choice. Willius and Brown state that sulphadiazine possesses definite advantages over the compounds which have preceded it: namely, sulphanilimide, sulphapyridine and sulphathiazol. However, they believe that sulphamerazine appears to possess definite advantages over sulphadiazine because of its better solubility behaviour and because it accumulates more readily in higher concentrations in the blood than other compounds. From future experiments, one can hope that some sulpha compound may yet be discovered with little or no toxic reactions.

Apparently, these drugs do have a place in local application in the mouth as only in rare conditions is there any danger when thus applied. As a rule the ideal method of application appears to be to blow the drug into the wound by means of an atomizer. However, Dr. John Clay of Calgary in this same February issue states that it is his opinion, following a considerable series of cases with controls, that healing in ordinary post extraction cases is definitely not aided by topical application of sulphonamides.

Milton, Austen, Stafne and Gardner of the Section on Dental Surgery of the Mayo Clinic, in an article in the March Journal state that in a series of cases in which 60 per cent sulphathiazol incorporated in a sterile petrolatum base was used, the incidence of dry socket was reduced to about half of that of the control group. They are of the opinion that sulphathiazol alone does not prevent dry socket and of equal importance is the mechanical action of this dressing in reducing the size of the clot when blood is displaced from the central position of the socket so that the blood supply from the surrounding bone can, in most instances, better maintain the vitality of a small clot. They have not found either, that sulphathiazol is of value in the treatment of dry socket once symptoms have developed. Following the removal of cysts from the jaws, they use sulphathiazol powder sparingly by means of an atomizer and prefer this method in the case of complete upper or lower alveolectomy or the extraction of upper impacted teeth and that results seem to favour this procedure.

Patients who have received sulphonamide therapy should not be allowed to drive a car or aeroplane, operate a machine, or make important decisions because of the mental condition which often develops.

We can only conclude from all published reports that dentists should not prescribe these drugs for internal use.

M. H. G.

Eastern Ontario Dental Association

The 67th Annual Convention of the Eastern Ontario Dental Association will be held at the Chateau Laurier, Ottawa, Ontario, September 17, 18, 19, 1944. A cordial welcome is extended to all members of the profession.

—C. Murray Purcell, Secretary.

Dental Technicians

Probably the first act in the world respecting dental technicians has been passed by the Legislature of the Province of Quebec. The Act states that this technician's association will have power to regulate the practice of their art by its members. The conditions of admission to the study and practise of the art, as well as apprenticeship, studies, and examinations are to be governed by a committee of eight members, four being appointed by the Provincial Board of Dental Surgery. By-laws may provide for the establishment of schools, laboratories or special courses and for the affiliation of the Association with any school or university. The annual fees are not to exceed twenty-five dollars.

The council of the Association may impose disciplinary penalties upon members. Advertising is to be controlled. Nothing in the Act authorizes the Association to regulate or control the prices of articles of oral prosthesis and nothing authorizes a member of the Association to deal with any person other than dentist, physician, hospital or municipal clinic upon a dentist's or physician's prescription or order.

This Act is of great interest to all dentists. The Quebec Dental Board has worked very hard upon this important matter and are deserving of great credit. Whether this Act will set the pattern of similar legislations elsewhere remains to be seen. Copies of this Act are obtainable from our C. D. A. Secretary, Dr. Don W. Gullett, 211 Huron Street, Toronto, Ontario.

M. H. G.

BOOK REVIEW

Dental Practice Management by William H. O. McGehee, D.D.S., M.D. and Alfred S. Walker, D.D.S. Dr. McGehee is late professor of Dental Practice Management in Georgetown University, a former dean of the dental department of the medical college of Virginia, a professor of Operative Dentistry at Ohio College of Dental Surgery, Western Reserve University Dental School and New York University College of Dentistry. Dr. Walker is special lecturer on practice management in New York University College of Dentistry, member of the Dental Advisory Committee of President Roosevelt's Committee on economic security, a past president of New York state dental society etc. The book includes a discussion of Ethics, Economics, Socio-Economics and Jurisprudence as applied to successful practice management. 285 pages with good index. Published by

The Year Book Publishers Incorporated, 304 South Dearborn St., Chicago. Price \$3.00.

This book is designed to fill the need for a concise text, where a knowledge of the principles of dental practice management may be readily obtained. Business administration is well covered, and enough of the ethical and legal aspects of professional practice to give the reader a broad view of his relationships in these matters.

There are excellent chapters dealing with factors involved in economic success in dental practice; preparing for entrance into practice; building and holding a practice; establishing and maintaining the confidence of patients as well as office stationery, records, fees, credits, collections etc.

This is a book that is more than a text for the student. Every dentist could read it once a year and benefit. The authors have

gathered their material from many sources and presented it in a very interesting manner. It is refreshing and truly professional. The theme seems to centre around the accomplishment of two objectives in dental practice:

1. Rendering the highest type of professional service. 2. Sure and safe provision for the financial and social requirements of one's self and dependents. It is a timely volume. —T.R.M.

DENTAL CORPS NEWS

SUPPLEMENTARY LIST CANADIAN DENTAL CORPS OFFICERS AS OF MAY 31, 1944

APPOINTMENTS

Rank, Name and Date	Civilian Address
Lieut. G. A. Gaudet, 22-4-44.....	Moncton, N.B.
Lieut. R. N. D. Rice, 10-5-44.....	Petitcodiac, N.B.
Lieut. I. G. Nathanson, 10-5-44.....	Halifax, N.S.
Lieut. J. I. Gordon, 10-5-44.....	Halifax, N.S.
Lieut. M. R. Jackson, 10-5-44.....	Cape Breton, N.S.
Lieut. A. H. Erwin, 10-5-44.....	Stewiacke, N.S.
Lieut. R. F. Cameron, 10-5-44.....	West Gore, N.S.
Lieut. A. Paquin, 22-4-44.....	St. Eustache, P.Q.
Lieut. P. Gouvernement, 22-4-44.....	Sorel, Que.
Lieut. J. G. Dupouis, 22-4-44.....	St. Jacques le-Mineur, Que.
Lieut. J. Durand, 22-4-44.....	Westmount, Que.
Lieut. G. A. Bonin, 22-4-44.....	Montreal, Que.
Lieut. R. Cholette, 22-4-44.....	Montreal, Que.
Lieut. G. J. Boulet, 22-4-44.....	Quebec, Que.
Lieut. J. P. A. Cabana, 22-4-44.....	Quebec, Que.
Lieut. P. L. Dugal, 22-4-44.....	Drummond, Que.
Lieut. M. Laperriere, 22-4-44.....	Drummondville, Que.
Lieut. J. J. Rinfret, 22-4-44.....	Louiseville, Que.
Lieut. H. Tremblay, 22-4-44.....	Rimouski, Que.
Lieut. G. E. Amiot, 22-4-44.....	Lacolle, Que.
Lieut. G. Beaulieu, 22-4-44.....	L'Islet Station, Que.
Lieut. B. Bergeron, 22-4-44.....	Matane, Que.

Rank, Name and Date	Civilian Address
Lieut. J. A. G. Perreault, 22-4-44.....	Portneuf, Que.
Lieut. J. V. L. Henault, 22-4-44.....	Joliette, Que.
Lieut. R. R. Debien, 22-4-44.....	Laval, Que.
Lieut. D. R. Girard, 22-1-44.....	Granby, Que.
Lieut. M. Morin, 22-1-44.....	St. Hyacinthe, Que.
Lieut. L. P. Pelchat, 22-4-44.....	Beauce, Que.
Lieut. J. P. Carrier, 22-4-44.....	Levis, Que.
Lieut. J. M. C. Racicot, 22-4-44.....	Montreal, Que.
Lieut. L. E. Mallin, 9-5-44.....	Saskatoon, Sask.
Lieut. W. A. Cotter, 9-5-44.....	Kamsack, Sask.
Lieut. S. L. Yaremchuk, 9-5-44.....	Beauvalon, Sask.
Lieut. R. H. Blaquiere, 9-5-44.....	Edam, Sask.
Lieut. A. A. Fraser, 9-5-44.....	Strasbourg, Sask.
Lieut. J. Jackson, 9-5-44.....	Edmonton, Alta.
Lieut. A. N. McDougall, 9-5-44.....	Edmonton, Alta.
Lieut. S. Stein, 9-5-44.....	Edmonton, Alta.
Lieut. D. H. Warren, 9-5-44.....	Edmonton, Alta.
Lieut. A. D. Fee, 9-5-44.....	Killam, Alta.
Lieut. R. A. Duncan, 9-5-44.....	Calgary, Alta.
Lieut. N. J. West, 9-5-44.....	Mountain View, Alta.
Lieut. T. O. Walhovd, 9-5-44.....	Veteran, Alta.

RETIREMENTS

Major L. E. Riddells, 5-5-44..... Brantford, Ont.

Canadian Army Photo (Crown Copyright).

Colonel Dwight S. Coons, M.M., E.D. Deputy Director Dental Services (Air)

The Department of National Defence has recently announced the promotion of Colonel Dwight S. Coons, M.M., E.D., from the rank of Lieut. Colonel, and his appointment as Deputy Director Dental Services (Air).

Colonel Coons, was born in Winchester Springs, Ont. He served in France with an Infantry Battalion in World War I where he won the Military Medal and later his commission as a Lieutenant. Upon his return to Canada, he was graduated in dentistry at the University of Toronto and practised in Hamilton, Ont. He is a Past President of the Hamilton Dental Association.

He continued his association with the Army, serving with the Argyle and Sutherland Highlanders of Canada, N.P.A.M. Shortly after the outbreak of the present war, he transferred to the Canadian Dental Corps and was called to National Defence Headquarters where he was appointed C.D.C. Liaison Officer to the R.C.A.F. He was awarded the Efficiency Decoration in 1942.



**LIST OF C.D.C. OFFICER PROMOTIONS IN CANADA ANNOUNCED BY
N.D.H.Q. DURING MONTHS OF APRIL AND MAY**

Name	Coy.	Promoted to	Effective Date
Lt.-Col. D. S. Coons.....	N.D.H.Q.....	A/Colonel.....	6 April, 1944
Major W. J. Gibson.....	T.T.C.....	A/Lt.-Col.....	3 April, 1944
Capt. A. J. Saich.....	32.....	A/Major.....	1 April, 1944
Capt. G. K. McKeown.....	30.....	A/Major.....	1 April, 1944
Capt. A. Masson.....	39.....	A/Major.....	6 April, 1944
Capt. D. T. Wilson.....	27.....	A/Major.....	6 April, 1944
Capt. A. R. Ezard.....	30.....	A/Major.....	7 April, 1944
Capt. R. A. McEwen.....	33.....	A/Major.....	7 April, 1944
Capt. D. W. M. Duncan.....	26.....	A/Major.....	8 April, 1944
Capt. E. M. Galbraith.....	40.....	A/Major.....	8 April, 1944
Capt. W. H. Geering.....	40.....	A/Major.....	8 April, 1944
Capt. R. H. A. Henderson.....	40.....	A/Major.....	8 April, 1944
Capt. G. H. Forbes.....	38.....	A/Major.....	9 April, 1944
Capt. H. J. Fahey.....	29.....	A/Major.....	9 April, 1944
Capt. H. B. Gorrell.....	38.....	A/Major.....	9 April, 1944
Capt. F. W. McDowell.....	29.....	A/Major.....	9 April, 1944
Capt. C. Usher.....	31.....	A/Major.....	13 April, 1944
Capt. R. M. Anderson.....	50.....	A/Major.....	15 April, 1944
Capt. R. L. Slemon.....	23.....	A/Major.....	15 April, 1944
Capt. H. E. Clark.....	35.....	A/Major.....	17 April, 1944
Capt. W. R. Godard.....	10.....	A/Major.....	17 April, 1944
Capt. W. M. Myles.....	23.....	A/Major.....	18 April, 1944
Capt. J. E. Lappin.....	22.....	A/Major.....	23 May, 1944
Capt. P. Pearen.....	22.....	A/Major.....	23 May, 1944
Capt. H. C. Richards.....	22.....	A/Major.....	23 May, 1944

CANADIAN DENTAL ASSOCIATION NEWS

(FROM THE OFFICE OF THE SECRETARY)

Progress Report of Research Committee

Since the Research Committee prepared and submitted a report on "Research in a National Health Insurance Program," in November, 1942, they have been actively engaged in the necessary preliminaries prior to petitioning the National Research Council at Ottawa for the formation of an Associate Dental Committee under that body. The Canadian Dental Association Committee has been extended to include representation from the dental teaching institutions, where interest in research is probably greatest and some facilities are possibly available.

Letters were addressed to the Deans of all Dental and Medical Schools across the Dominion notifying them of our preparations and soliciting their support if they saw fit. A similar letter was sent to the Canadian Medical Association.

The majority of the replies were very favourable to our cause. These will be submitted to the National Research Council when our application is made.

The committee is meeting in Toronto again on Monday, June 26. Any suggestions or comments concerning this matter would be greatly appreciated by the Committee.

—R. G. Ellis, Chairman.

•

Progress Report of Committee on Dental Education

Several members of the Committee were in attendance at the meeting of the American Association of Dental Schools held in March at Chicago and advantage was taken of this circumstance to hold a meeting of this Committee. Considerable discussion took place relative to teaching facilities in the event of the National Health Insurance bill being put into effect.

The Committee is studying the matter of entrance requirements for returned members of Canada's Armed Forces who wish to take up the study of dentistry. In due course the Committee will present recommendations before the Canadian Dental Association Delegates.

—Arthur L. Walsh, Chairman

"Your Baby's Teeth"

The third edition of "Your Baby's Teeth" has just been printed. The demand for this pamphlet has exceeded all our expectations.

•

The Matter of Professional Ethics

Consideration of the importance of high ethical standards to a profession is apt to be over-shadowed by grave emergent problems. No profession can afford to allow the distinguishing characteristics by which it is known to lie fallow. The ever-furbishing of these cardinal marks by which the profession is known must be given expert attention, lest the high aims once established degenerate rapidly to that level from whence the profession sprang.

Interrogation immediately arises as to what is a profession and how is the profession recognized. Professor Byrne J. Horton, of St. John's University in the February, 1944, issue of the *Scientific Monthly*, contemplating the characteristics of the professions, advances ten criteria or ear-marks of a genuine profession as follows:

1. A profession must satisfy an indispensable social need and be based upon well-established and socially accepted scientific principles.
2. It must demand an adequate pre-professional and cultural training. (Today, a two-year college course is generally required.)
3. It must demand the possession of a body of specialized and systematized knowledge.
4. It must give evidence of needed skills which the general public does not possess; that is, skills which are partly native and partly acquired.
5. It must have developed a scientific technique which is the result of tested experience.
6. It must require the exercise of discretion and judgment as to the time and manner of the performance of duty. This is in contrast to the kind of work which is subject to immediate direction and supervision.
7. It must be a type of beneficial work, the result of which is not subject to standardization in terms of unit performance or time element.
8. It must have a group consciousness designed to extend scientific knowledge in technical language.
9. It must have sufficient self-impelling power to retain its members throughout life. It must not be used as a mere stepping-stone to other occupations.
10. It must recognize its obligations to society by insisting that its members live up to an established and accepted code of ethics.

Undoubtedly if one of these carefully considered statements was to be chosen as being of foremost importance, the last one would be selected. Consequently the matter of an accepted code of ethics to a profession assumes a position of superlative consequence; especially so, at this time when values are being re-weighed and new allocations given to all levels of society.

A code of ethics consists of a systematic collection of statements representing the altruistic objectives of the members of the profession and so arranged as to avoid inconsistency and over-lapping. Too often the professions are now spoken of as being a law unto themselves and a statement to that effect will not elevate the profession in the minds of the public no matter how desirable the statement may be considered by ourselves. While the code is primarily for the guidance of the members of the profession, the enunciated principles contained are for the consideration of society as a whole.

NEWS FROM THE PROVINCES

ONTARIO:

Dental Nurses' Alumnae Convention

The Dental Nurses' Alumnae, graduates of the Course in Dental Nursing, Faculty of Dentistry, held their eleventh Convention in the Royal York Hotel May 29 and 30.

The President, Miss Marjorie Jackson, gave her opening address and introduced the Convention Convener Miss Gertrude Whitehead. Dean Arnold D. Mason officially opened the Nurses' Convention.

The guest speakers were Dr. Morris Stern, Long Island, N.Y.; Dr. Clyde Nelson, Milford, Delaware; Dr. D. W. Gullett; Dr. S. A. MacGregor; Dr. R. P. Lowery; Miss D. M. Shantz; Mr. Mark Terail; Mr. H. A. Whitehead; Mr. W. McTavish.

On Tuesday the members attended the luncheon of the Ontario Dental Association at which a portrait of Dean Mason was presented by the Royal College of Dental Surgeons.

A Reception was held Tuesday evening in the hotel Club Room for the members and guests of the Convention. The prize donated by Miss Pearl Bartindale for the best Table Demonstration was presented to Miss Marjorie Jackson by Dr. Frank Martin. Miss Betty Broadrib was the winner of the lucky number prize presented by Dr. Roy Ellis. Miss Anna Denholm accompanied by Miss Georgette Doe sang a group of songs. Miss Jeanne Alison, Music Convener, and Mrs. Milton Walker, Social Convener, were in charge of the evening.

The graduation exercises of the 4T4 Class of Dental Nurses was held in Convocation Hall on June 7, on which occasion Miss Marjorie Jackson, President of the Dental Nurses' Alumnae Association, presented the crest ring to Miss Mary Elizabeth McArter. The prize is given by the Alumnae to the nurse who ranks highest in practical work.

The Alumnae entertained the graduates at dinner at the Alexandra Palace. Greetings were conveyed by the president to the guests of honour and toasts were proposed by Miss Betty Broadrib, Miss Jean Newall, Miss Henrietta Mann and Miss Lois Mooney. Miss Jean Miller, supervisor of the Nurses in Training, lead the graduating class as they repeated the Dental Nurses' Pledge.

The Annual meeting of the Dental Nurses' Alumnae Association was held on June 13, in the Faculty of Dentistry Building, with the Vice-President Miss Jean Miller presiding. The annual reports were read by the executive and the following officers were elected for the year 1944-45.

President, Mrs. Gertrude Walker
Past President, Miss Marjorie Jackson
Vice-President, Miss Lillian Potter
Recording Secretary, Miss Lola Gerrow
Corresponding Secretary, Miss Ellen Rolli-
son

MISS MARJORIE JACKSON

Convention President

Dental Nurses Alumnae





DENTAL NURSES, CLASS OF 1944

Miss K. M. Barrie, Kitchener; Miss M. A. Barton, Prescott; Miss M. L. Conover, Brampton; Miss M. B. Forman, Ingersoll; Miss M. M. Gillespie, Edmonton, Alberta; Miss H. J. Hamblin, Kitchener; Miss M. G. Hilborn, West Vancouver, B.C.; Miss H. L. Kruger, Chappleau; Miss M. E. E. McArter, Brampton; Miss K. A. MacEwan, Goderich; Miss L. G. MacSween, St. Catharines; Miss K. T. Richards, Kirkland Lake; Miss R. E. Sadler, Oshawa;

And the following from Toronto: Miss L. V. Berry, Miss A. R. Conroy, Miss R. I. Ewart, Miss A. G. Godfrey, Miss B. Y. Hueston, Miss J. A. McLean, Miss R. M. Mayhew, Miss L. M. Mooney, Miss C. A. Pollock, Miss B. M. Sneath, Miss D. L. South, Miss E. L. Watson, Miss J. M. Wenger.

The First and Second General Proficiency Prizes of the Royal College of Dental Surgeons were awarded to Miss M. M. Gillespie, and Miss M. E. E. McArter respectively, and the Dental Nurses' Alumnae Association of Canada Prize was awarded to Miss M. E. E. McArter.

Ass. Corresponding Secretary, Miss Eleanor Mason

Treasurer, Miss Doreen Klager

Entertainment Convener, Miss Jean Bryson

Welfare Convener, Mrs. Gwen Cole

Membership Convener, Miss Dorothy Quinn

Publicity Convener, Mrs. Ida Davis

Convention Convener, Miss Gertrude Whitehead

Advisory Board, Dean A. D. Mason, Dr.

R. G. Ellis, Dr. Frank Martin

Auditor, Mr. K. E. Greenwood

It was reported that the net proceeds of the Rummage Sale held in May were approximately \$120.00.

Miss Welda Leask moved a vote of thanks to the retiring executive.

—Ida E. Davis

Graduation in Dental Nursing

The Commencement exercises of the Class of 1944 in Dental Nursing was held June 7, in Convocation Hall, University of To-

ronto, and diplomas were awarded by President Cody.

The course in Dental Nursing is to train young women to assist dentists and relieve them of much routine and detail in their offices, thus enabling them to devote almost their entire attention to actual dental operations.

Lectures and class laboratory instruction are given, and considerable time is devoted to gaining practical experience in the departments throughout the college. This year the student dental nurses also spent six weeks in various offices of Toronto dentists so that they would become familiar with actual private office routine. The course in Dental Nursing includes the following subjects: Accounting Principles; Dental Anatomy; Dental Surgery Assistance; Elementary Bacteriology; Radiography; Ethics, Jurisprudence and Economics; Operative Dentistry Assistance; Oral Hygiene and Preventive Dentistry; Practical Dental Nursing; Prosthodontia Assistance and Laboratory Service; Orthodontia Assistance; and Correspondence and Typewriting.

Under the prevailing wartime conditions the civilian dentists are taxed to the limit of their time and energies to meet the demand for dental services, and they are realizing more than ever the valuable assistance which the graduate dental nurse can give.

The twenty-six young women in the present class were carefully selected and a personal interview was arranged in most cases. Their appearance, personality, educational standing and apparent aptitude for dental nursing were considered.

Further information may be obtained by telephoning Midway 9060, or writing to:

Dean Arnold D. Mason
Faculty of Dentistry
230 College Street
Toronto 2-B

The members of the 1944 Class in Dental Nursing are Misses: K. M. Barrie, Kitchener; M. A. Barton, Prescott; M. L. Conover, Brampton; M. B. Forman, Ingersoll; M. M. Gillespie, Edmonton, Alberta; H. J. Hamblin, Kitchener; M. G. Hilborn, West Vancouver, B.C.; H. L. Kruger, Chappleau; M. E. E. McArter, Brampton; K. A. MacEwan, Goderich; L. G. MacSween, St. Catharines; K. T. Richards, Kirkland Lake; R.

E. Sadler, Oshawa; and from Toronto, Misses: L. V. Berry, A. R. Conroy; R. I. Ewart; A. G. Godfrey; B. Y. Hueston; J. A. McLean; R. M. Mayhew; L. M. Mooney; C. A. Pollock; B. M. Sneath; D. L. South; E. L. Watson; J. M. Wenger.

Ontario Dental Nurses' and Assistants' Association Thirteenth Annual Convention

The Thirteenth Annual Convention of the Ontario Dental Nurses' and Assistants' Association was formally opened at the Royal York Hotel, Toronto, with the President's Reception in the official suite on Sunday evening. The President, Loretta McCaughey of London and the Convention Hostesses, Christine James, Irene Douglas and Margaret Dickson, received the guests and members.

Monday morning thirteen table demonstrations and a display by the Patriotic Donators and Knitters Club were presented. These were unique in subject and manner of presentation and were capably convened by Arlene Greeny. The display of posters on the amusing subject "They'll Do It Every Time" was arranged by Daisy Walker.

The general sessions Monday afternoon were called to order by the President and invocation pronounced by the Reverend A. E. McQuillen. The speakers included Mr. Wm. McTavish, Toronto and Miss P. Bowles of Niagara Falls with a paper on the Convention theme of "Unity". In the evening the Hi-Jinx Banquet was packed with fun for all. The Co-operation Trophy was awarded Kitchener as was the Membership Trophy with second and third ribbons to Niagara Falls and Brantford respectively. The Achievement Trophy was awarded to Ilean Bruce for her work in the Association during the past year. Winnifred Grier convened the Special Contest, that of choosing a Motto for the Association, the awards going to Kitchener.

Tuesday sessions opened with greetings from Dr. J. H. Duff, President of the Ontario Dental Association, Dr. F. L. Williamson, the Vice President, Dr. E. A. Grant, Secretary of the Ontario Dental Association and Dr. H. Skilling, President of the Academy of Dentistry. The speakers, Dr. R. P. Lowery, Toronto—Dr. M. N. Stern, Long Island, N.Y.—Dr. J. P. Gleason, Rochester.

N.Y.—Dr. J. P. Coupland, Ottawa—Dr. E. L. Ball, Cincinnati, Ohio, each selecting a subject of vital interest to nurses and assistants.

The Association colours were displayed in attractive decorations for the Roof Garden Luncheon, when Mr. Don Henshaw gave a timely address "Competition Goes To War". Dr. Martha Law presented her Clinic Trophy to Larry Ohlheiser, Kitchener, for her clinic "Do You Do This". Mr. Wm. McTavish presented his Poster Trophy to Daisy Walker of St. Thomas.

Wednesday featured Dr. R. M. Patterson, Detroit Michigan—Dr. J. A. Gillies, London—Miss Margaret C. Sharpe, Jasonville, Indiana the representative of the American Dental Assistants' Association—Mr. A. E. Byrne of Toronto.

The annual meeting and election of officers completed the sessions. The installation service followed. The following newly elected Board of Governors of the O.D.N. & A.A. were inducted, the President, Ilean C. Bruce—1st Vice President, Lucile Ryder—2nd Vice President, Doris Gregory—Recording Secretary, Helen Dosman—Corresponding Secretary, Margaret McAuliffe—Archivist, Marion Edwards. This brought to a close a most successful and memorable Thirteenth Annual Convention.

—Ilean C. Bruce

Essex County Dental Association

The new officers for the season 1944-45 are: president—Dr. L. J. Fenech; past president—Dr. Omar Baker; vice-president—Dr. T. "Norm" Robinson; secretary—Dr. Denis Bardoff, and Dental Public Health Committee Chairman—Dr. Lee L. Crowley.

Faculty of Dentistry University of Toronto

There is increasing evidence of great interest in post graduate instruction among members of the dental profession. The Faculty Council are cognizant of this interest and in spite of heavily taxed staff and facilities because of the accelerated undergraduate course, plans are being considered to provide courses in "Dentistry for Children", "Dental Surgery" and "Periodontia". Dates and particulars of these courses will be announced later if they can be satisfactorily arranged.

Dean Mason Honoured

Members of the American Association of Dental Schools elected Dr. Arnold D. Mason of Toronto, Vice-president of their society. The occasion was the twenty-first annual meeting held in Chicago. Congratulations to Dean Mason.

Grey Bruce Dufferin Dental Society

President Dr. Harry Legate and his fellow officers arranged the annual outing for members of the Society and friends at Owen Sound on June 21. It was a delightful day both for those who played golf and for those who relaxed on the deck of a launch as it cruised Owen Sound. In the evening dinner was served at the golf club. Representatives of the dental trades, local dental technicians and several dentists from Toronto were present to enjoy the hospitality and friendship extended. Toasts were presented, to the Faculty of Dentistry, U. of T. by Dr. Wilson Biddel and responded to by Dr. R. J. Godfrey; to the Ontario Dental Association by Dr. J. E. Truemner and responded to by Dr. Frank Martin, Vice-president of the Association; the Canadian Dental Association by Dr. Dan Campbell and replied to by Dr. T. R. Marshal; the dental trades by Dr. Geo. McKee and replied to by Lt. Col. Norman Alexander.

Dr. Harold Campbell of Orangeville, president of the Board of the Royal College of Dental Surgeons, gave a fine address concerning the functions of the Board and the responsibilities of our profession. Dr. Harry S. Thomson, Dr. H. J. Hodgins, and Dr. J. E. Truemner gave brief addresses.

The following officers were elected for 1944-45: Pres., Dr. J. E. Truemner; Vice-pres., Dr. W. J. Tackaberry; Secretary, G. H. McKee; Directors: Drs. L. G. Campbell, E. A. Ross, L. E. Little, E. J. Weiler, J. H. Zinn.

MANITOBA:

Manitoba Dental Association

Last month we recorded the retirement from active practice of Dr. C. P. Banning of Winnipeg. This month we regret to announce his death at the comparatively untimely age of sixty-six. Dr. Banning was a native of Winnipeg where he had lived all his life, having been in active practice of his profession since his graduation from the dental

department of the Northwestern University of Chicago in 1900.

An *In Memoriam* notice appears in this issue of the Journal.

Winnipeg Dental Society

The Winnipeg Dental Society finished the 1943-44 season with a late afternoon and evening meeting to listen to one of the prominent oral surgeons of the United States, Dr. Louis T. Austin, Chief Oral Surgeon of the dental section at the Mayo Clinic. Dr. Austin was greeted by a large gathering of the dental profession who enjoyed meeting him and listening to his interpretation of the dental films which he had with him.

The meeting also elected its officers for the coming year. They are as follows:

President, Dr. Wm. J. Robb; Vice-Pres., Dr. P. B. H. Wood; Secretary-Treasurer, Dr. Thos. Blight; Members of the Executive Committee, Dr. S. R. Bird and Dr. H. J. Lawrence.

NEW BRUNSWICK:

School Addresses

Dr. F. C. Bonnell, representing the New Brunswick Dental Society and the Canadian Dental Hygiene Council of Canada, addressed students of the Provincial Normal School during the week of June 4 at Fredericton. The lectures, given annually, are to further prepare students and teachers on matters pertaining to public dental health.—St. John Times Globe.

EMPIRE NEWS

GREAT BRITAIN:

Discussion on White Paper

Condensed from letter by Dr. Alfred Cox of London, England, to Editor of Can. Med. Assoc. Jour., June, 1944.

The criticism of the White Paper which is most common among men of the profession that I meet is that, whichever way you look at it, in spite of its agreement that doctors should be free to come into the new Service or stay out of it, or to come into it for part-time and have private practice for the rest of their time, the result in the end will be a salaried Service very much on Civil Service lines.

My chief criticism of the proposed comprehensive scheme is that for doctors, while there would be no blanks there would also be no prizes.

There is another great difficulty which I see in the proposal that doctors in the Service should be able to do private practice as well as public, and I see no way out of my dilemma. Rightly or wrongly, as shown by our insurance system, there is a considerable proportion of the public who cannot be convinced that they get as good a service inside as outside. A fair number of the present insured make use of men who are not on the panel, and this number would, I am sure, be greatly increased when we take in the better-off sections of the public. Even if convinced that the technical service is good inside the service, such people would be

willing and anxious to pay for private treatment with its amenities which are hardly consistent with work at a health centre.

How this dilemma is to be solved I cannot say, and the only answer I have had to it, from responsible people, is that good doctors would always do good work under any system of payment, and that the force of circumstances will compel most doctors to go into the new Service.

I am inclined to agree that the payment-for-service method of payment is the best if experience had not shown that, under any system financed by the State, it is impossible, because the State must know what it has got to budget for and therefore the amount that is to be paid out to the doctors in each area would be calculated beforehand on an actuarial basis. This, in our experience, "kills" the payment-for-service method.

In our present insurance system it is open to any insurance area to pay either by capitation or by payment-for-service and two areas in Lancashire adopted the latter method—but only for a few years. They found that the number of doctors who were trying to get as much out of the "pool" as possible by unfair means, was sufficient to ruin the system, and after stubbornly trying to make it work for several years, they gave it up. I cannot see how any payment-for-service system could work if you grant that the amount of money for the medical profession would be limited.

The White Paper

Condensed from Address by the Dental Secretary to the Representative Board of the B.D.A.

In the introduction of the White Paper the Government set out their aims and objects. Their main object is to provide for every man, woman and child in the country a complete health service. Everybody will have to contribute, and the services provided will be open to everybody.

How does the Government propose to put this scheme into operation? It lays down what have become known as the three freedoms. The first is the freedom of every citizen either to obtain treatment under the scheme or to make his or her own private arrangements. The second is the freedom of every professional man concerned in the comprehensive scheme—doctors, dental surgeons, chemists, opticians, and so on—either to undertake service under the scheme or to remain independent and carry on his own private practice. The third is the freedom of those professional men who do accept service under the scheme to exercise their professional judgment and to treat patients in accordance with what they think is the right method.

Quotations are given from the section of the B.M.A. Medical Planning Commission's Report dealing with grouped practice, and that section is commended. A description is given of the way in which a number of doctors may group together and have placed at their disposal excellent accommodation, well-equipped surgeries and consulting rooms, and all the ancillary assistance they require, so that they can devote their whole energies to doing the best for their patients. That is described as grouped practice, and it is said in the White Paper that normally, though not necessarily always, grouped practice would be carried out at health centres under the State, to be equipped by the Joint Board.

With regard to remuneration, those engaged in grouped practice, whole-time, will be paid a salary, and those engaged in individual practice will be paid a capitation fee. Provision is made for those who wish to remain in private practice to do so, and they can, if they like, engage part-time individual practice, for which, of course, they will receive a capitation fee, but it will be the business of the Central Medical Board to ad-

just the time they are allowed to devote to the public aspect of their work in the light of their private practice commitments, so as to ensure that the service will get a square deal.

Provision is made for superannuation. All those engaged whole-time will be entitled to superannuation, and the Government are prepared to consider making arrangements for a superannuation scheme for those engaged in individual practice.

With regard to dentistry, a dental service is one of the temporary exceptions from the comprehensive scheme. The White Paper says: "A full dental service for the whole population, including regular conservative treatment, is unquestionably a proper aim in any whole health service, and must be so regarded. But there are not at present, and will not be for some years, enough dentists in the country to provide it. Until the supply can be increased, attention will have to be concentrated on priority needs. These must include the needs of children and young people and of expectant and nursing mothers. We may take it, I think, that it is the intention of the Government that the comprehensive health service shall include complete dental treatment as and when that becomes possible.

I have always thought that it would be a fairly easy matter, provided terms could be arranged with the medical profession, to institute a full medical service for the people, but that it would be an exceedingly difficult matter to institute what we understand by a full dental service for the people. In the case, for instance, of a poor person requiring an appendectomy and a rich person requiring the same operation, the skill and knowledge required for the diagnosis and the skill and knowledge required in the removal of the appendix are the same. The only difference is in the surroundings of the patient. The poor person may be bedded in a ward with several other patients, whereas the rich person may go to the pay bed section of a hospital or to a nursing home. But in dental matters there is a basic difference. Can you visualize in a comprehensive dental service a patient being told: "You are going to lose these lower molars. In order to keep your lower six fronts we will make you an oval bar lower and you will not have to lose those teeth if you take care of

them?" Is it not fair to suggest that in most cases, as is our experience at the moment in dental benefit, the patient will be given a partial vulcanite lower and the other kind of treatment will be deemed to be luxury treatment? If that is so (and it has been our experience in dental benefit that that kind of thing happens) I think we as a profession must realize that there will undoubtedly be a lowering of the general stand-

ard of treatment, and that will mean a lowering of the standard of the profession, and obviously our recruitment will suffer and we shall go back very many years.

What we have to consider is whether it is possible under a comprehensive service to have really complete freedom of professional opinion and really complete freedom from bureaucratic control.—*Br. D. Jour.* May 19, 1944.

GENERAL NEWS

Teeth Insurance as Health Insurance

A voluntary all-inclusive health insurance plan for residents of New York City who earn up to \$5,000 a year, has been proposed by Mayor F. H. LaGuardia. The project is to be administered by a non-profit corporation, which would charge approximately 4 per cent of the employee's annual income, with employers paying at least half and the employees the rest. Its scope is understood to have the approval of the medical societies in the five Counties, except that they are opposed to the \$5,000 salary ceiling for eligibles and desire to confine the plan to persons earning up to \$2,500 a year.

The plan will cover normal as well as catastrophic illness including general practitioner at home, office or hospital, specialist services for all treatments and consultations. Preventive care will include examination of patients from time to time to prevent and discover illnesses.

If organized medicine approves the \$5,000 salary ceiling for eligibles, the open panel will be used. Salaries will range from \$6,000 up to \$20,000 with appropriate salaries for junior assistants. Many young physicians now in the armed services are expected to become available for this plan.

Dentistry was not included in the Committee appointed by the Mayor. The inclusion of representatives of dentistry on the Mayor's Committee on Health Insurance would have been of benefit since the dentists would have obtained much valuable background in health planning for New York City.

It is well known that there is a medicodental zone in medical care which can not be ignored. There are many conditions in which dental defects must be corrected before other medical or surgical treatment can

be undertaken. Furthermore, there are instances where dental care is an adjunct of medical treatment and must be provided if the latter is to be of full value.—*From Editorial, N.Y. Jour. of D. July, 1944.*

Holland to Receive Dental Aid

American educators in the field of dentistry have interested themselves in a project to restore dental practice in Holland to its prewar level as quickly as possible following the country's liberation. Dr. J. L. T. Appleton, Dean of the School of Dentistry at the University of Pennsylvania, is the leader of a unit which will give courses in dentistry at Utrecht University in Holland as soon as conditions permit. Dr. Appleton has appointed Lester W. Burket as head of the committee to give four week courses which will be prepared in both the English and Dutch languages.

The committee will be known as the "Ivory Cross Expedition" in honour of the "Ivory Cross," the Netherlands association for the elimination of dental decay of which Princess Juliana is honorary president.

Dental Hygiene Institute

The Dental Hygiene Institute, which is the educational and promotional instrument of the Chicago Dental Society, has during the past year engaged in at least four activities that are greatly beneficial to dentistry. First, it has produced a non-technical and entertaining slide film, which in the past year has been shown to high schools and adult audiences totalling over 30,000. Second, it has published numerous articles in suburban newspapers and magazines on dental health and also in the Downtown Shopping News. Third, it has organized and sponsored the

second Dental Health Week in the Chicago area, and finally, it has undertaken an industrial diagnostic service.

The Institute since its inception has been supported by grants from this Society, by contributions from the dental laboratories, dealers and manufacturers, and by \$500 memberships from dentists and laymen.

2,955 Physicians Go To Shortage Areas in U.S.A.

During the last two years 2955 physicians transferred from areas where their services could be spared to locations where medical service was scarce. No release has been made in regard to the number of dentists who have transferred to critical areas.

Under this program a dentist or physician who relocates his practice is paid \$250 a month for three months plus the actual cost of family travel and transportation of household effects. Three quarters of this amount is contributed by the public health service and one quarter by the community requesting the doctor.

Commissioning of Women Dentists in the U.S.A.

Women dentists who will serve beside men of the Dental Corps of the U.S. Navy are to be commissioned through the WAVES, according to an announcement received by the Liaison Office of the American Dental Association, from the Navy Department.

Under the new ruling which will enable women dentists to serve in the same capacity as men, the qualifications are the same as for men dentists except that duty will be within the Continental limits; the applicant may not be married to an officer in the Navy, and may not have children under 18 years of age.

Air Reduction Acquires Scanlan-Morris

C. E. Adams, Chairman of Air Reduction Company, Inc., has announced that S. Gwyn Scanlan, President of Scanlan-Morris Company and Scanlan Laboratories of Madison, Wisconsin, will propose to his stockholders a consolidation with Air Reduction Company, Inc. of New York.

Air Reduction Company, Inc., through its subsidiary, The Ohio Chemical & Mfg. Co., has long served the medical and dental pro-

fessions and the hospital field, particularly in producing anaesthetic gases and equipment for their administration. Scanlan-Morris Company and Scanlan Laboratories, Inc. have served in the field of sterilizing equipment, surgical furniture, sutures and operating room lights. Thus the business of the two companies is complementary, and the proposed consolidation should afford a broadened service to the medical and dental professions and to hospitals.

Oxygen Company of Canada, Limited, is the Canadian subsidiary of Air Reduction Company, Inc., with branches at Montreal and Toronto.

Focal Sepsis

L. Cole writing in the *Lancet*, 1943, ii, 561, on "Treatment and the Patient", offers well-balanced advice to the physician on the attitude which should be taken regarding a suspected focus in any case. As regards dental treatment he writes: "Wholesale clearance of comparatively healthy mouths is to some extent forced on the doctor and dentist by social conditions; at present it is difficult for poor people to get false teeth except as a complete upper or lower set, so that all-or-none law as applied to teeth is a recognized tradition. Even allowing for financial limitations in securing adequate dental treatment, ill-advised dental extraction for general conditions is one of the bad features of medical treatment today." The doctor and dentist must cooperate, and the former should weigh the demerits of both dental sepsis or dental deficiency. The complications which may follow dental extractions are named, not as common sequels, but as sequels which can, by taking thought, be avoided.—Br. D. Jour.

The School of Public Health of the University of California

The first School of Public Health west of the Mississippi has been established at the University of California.

There has long been need for a training centre in the western part of the continent to train public health personnel for service not only in the western United States, but for service in the entire Pacific Basin and Latin America. It is expected that the new school will operate as such a training centre.

The providing of courses and curricula on both undergraduate and graduate levels is

contemplated, and plans will be developed for the graduate training of health officers, epidemiologists, public health engineers, industrial hygienists and other specialists.

Planned as a university-wide undertaking, using the resources of all campuses, the school is being organized as a cooperative enterprise, involving the participation of several other schools and departments within the university, including those in the fields of medicine, medical research, education, nursing, home economics and sanitary engineering. The department of hygiene will be renamed the department of public health and will function as part of the School of Public Health.—*Science*.

Medicine and Dentistry

Correlation of the ideals, policies and professional activities of the medical and dental

professions are necessary if the highest degree of well-being is to be obtained for patients of both, declares Dr. Albert L. Midgley of Providence, R.I., in an article in the August issue of the *Journal of the American Dental Association*.

In setting forth the principles which should guide the development of the medicodental relationship, Dr. Midgley says:

"1. Dentistry, in service to the patient, should be made fully equivalent to an oral specialty of medical practice.

"2. Complete autonomy for each profession is desirable and necessary. For both, there should be independence with interdependence—a true perspective for each and an effective coordination of both in all individual relationships.

"3. Intimate cooperation between the dental and medical profession is essential for the promotion of the public welfare."

IN MEMORIAM

Harold Albert Reilly of Brockville, Ontario, aged 44, died very suddenly on May 3. He was graduated from the Royal College of Dental Surgeons of Ontario in 1923 and established a practice at Brockville where he remained until his death.

Following graduation, he became coach, manager and a player on the Brockville football team. Later he became a member of the Brockville golf club. He was a member of the First Baptist Church.

Dr. Reilly is survived by his parents.

Claude Percy Banning of Winnipeg, Manitoba, aged 66, died June 11. He was graduated in Dental Surgery from Northwestern University in Chicago in 1900.

For six years he was a member of the Board of Directors of the Manitoba Dental Association and was Secretary during five years of his membership on the Directorate. He was also a past-president of the Winnipeg Dental Society.

Dr. Banning was one of the professional group of physicians and dentists who were active in the erection of the Medical Arts Building in Winnipeg. He was one of the original Board of Directors of the building and for many years Secretary of the Board.

He was a member of the St. Charles Country Club, Elmhurst Golf Club, the Winnipeg Badminton Club, and the Winter Club, and for many years an active member of St. Stephen's Broadway United Church.

Dr. Banning is survived by his widow, a son and a daughter, also two brothers and a sister.

M. P. Henri Lessard of Thedford Mines, Quebec, aged 40, died May 10. He had practised in Thedford Mines for almost fifteen years.

Dr. Lessard is survived by his widow, four daughters, his mother, three brothers and four sisters.

. . . SECTION FRANÇAISE . . .

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenent, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Venne, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAudeau, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

Considérations Anatomiques sur l'Anesthésie Conductive de la mandibule pour Enfants

par W. H. PHILLIPS D.D.S., M.S., et

H. A. Maxmen, B.S., Ph.C., D.D.S.

(Traduction, Alcide Thiabaudeau, D.D.S.)

L'anesthésie conductive pour enfants n'est pas un nouveau procédé, mais une revue de la littérature des dix dernières années nous révèle que l'anesthésie conductive est employée fréquemment et la plupart du temps invoquée comme une aide en dentisterie des enfants. On ne peut surestimer la valeur de l'emploi habituel de l'anesthésie conductive soit pour l'extraction ou pour la préparation des cavités des dents temporaires ou permanentes. Pour traiter les enfants avec succès elle contribue plus que l'on peut suggérer. Durant les neuf dernières années l'anesthésie conductive a été employée avec succès à la clinique de l'école de Détroit.

L'anesthésie conductive peut s'employer pour toutes les opérations au maxillaire inférieur puisqu'elle procure une anesthésie profonde. Elle peut se pratiquer sans douleur, vue la pauvre innervation du point où pénètre l'aiguille. L'injection au trou mentonnier est contre-indiquée pour le traitement des dents antérieures parce qu'elle n'est pas satisfaisante et douloureuse. L'infiltration des dents inférieures est aussi contre-indiquée parce que la paroi buccale du maxillaire qui entoure les racines des molaires est tellement dense qu'elle est imperméable à la solution et ne procure pas l'anesthésie de la pulpe.

En administrant l'anesthésie aux enfants il faut avoir présent à l'esprit les variations de la cavité anatomique.

1. La branche montante est plus courte chez les plus jeunes enfants. Ainsi chez un enfant de sept ans le point d'insertion de l'aiguille dans les tissus se trouvera approximativement au niveau de la face triturante des dents inférieures.

2. La direction de l'aiguille sera à angle droit avec la branche montante et alors de haut en bas à des degrés variant avec l'âge de l'enfant, puisque, chez les jeunes l'angle formé par la branche montante et le corps du maxillaire est obtus. Plus le sujet est jeune plus l'angle est obtus et conséquemment plus la direction de l'aiguille ira vers le bas.

3. Plus l'enfant est jeune, plus la distance du bord postérieur au bord antérieur de la branche est petite. Plus l'enfant est jeune moins l'aiguille devra s'enfoncer profondément.

L'épine de Spix bord antérieur de l'entrée du canal dentaire se trouve située face interne de la branche montante aux deux tiers de la distance entre le bord antérieur et le postérieur.

4. L'élargissement de la branche montante ne varie pas conformément avec l'âge. Il se peut que l'aiguille ne rencontre pas d'os après une pénétration de 1.5 ou 2 c m. Il faut alors la retirer et faire une autre tentative en tenant le corps de la seringue aussi postérieurement que possible du côté opposé. Il est aussi possible d'outre-passer la branche montante chez un enfant et d'aller errer dans d'autres tissus. Quand on rencontre de l'os on a toujours l'assurance de ne pas injecter hors du champ opératoire désiré.

5. La ligne oblique interne est à peine présente avant l'âge de six ou sept ans par conséquent impossible à palper en dessous de cet âge. Le triangle ptérygomaxillaire, une petite dépression entre les bords de la ligne oblique et le ligament ptérygomaxillaire n'apparaît pas chez les petits enfants de moins de six ou sept ans. Mais chez les plus vieux cette dépression situe exactement le point anatomique où doit entrer l'aiguille.

La technique que nous recommandons pour les enfants est la méthode directe que voici: avec la pulpe de l'index de la main libre, cherchez le bord antérieur de la branche montante et remarquez la petite dépression entre les bords de la ligne oblique interne (quand elle existe), et le ligament ptérygomaxillaire. C'est le triangle ptérygomaxillaire. Placez-y la pulpe de votre index, l'ongle du côté de la ligne médiane. Tenez votre seringue de sorte que le baril se trouve du côté opposé dans la région des prémolaires, et guidé par le centre de votre ongle (un peu plus bas chez les plus jeunes), introduisez l'aiguille, le biseau du côté de l'os jusqu'à ce que vous rencontriez la crête de la ligne oblique. A ce point déposez quelques gouttes d'anesthésique à l'intention du lingual et pour permettre de pousser plus loin sans douleur. Alors retirez un peu l'aiguille en la poussant doucement vers la ligne médiane avec l'ongle. Aussitôt après avoir éludé la ligne oblique interne et le tendon du temporal, on pousse le baril un peu plus distalement et l'on enfonce l'aiguille prudemment jusqu'à ce qu'on rencontre les os. Retirez légèrement votre aiguille et déposez 1 cc. de solution anesthésique ce qui est suffisant s'il est bien déposé dans la gouttière du maxillaire.

L'anesthésie du buccinateur (long buccal) s'emploie comme adjuvant au blocage du nerf dentaire inférieur pour toute extraction ou préparation de cavité à la face proximale des dents inférieures. Ce nerf dessert les tissus du maxillaire de la région des molaires et des prémolaires de sorte qu'on peut l'anesthésier pour l'application de la matrice dans la préparation de cavité de deux surfaces. La simple infiltration communément employée dans le repli de la muqueuse vis à vis de la dent à traiter ne dure pas assez pour être efficace.

L'anesthésie conductive du long buccal se fait sur la face externe de la branche montante à un point au niveau de la face triturante des dents inférieures, juste en dehors de la ligne oblique externe. Le long buccal traverse la branche montante à ce niveau environ deux millimètres sous la muqueuse. C'est à cet endroit qu'on insère l'aiguille de deux ou trois mm. en tirant la joue en haut et en dehors pour y déposer $\frac{1}{4}$ de cc. de solution sous la muqueuse.

Il faut prévenir l'enfant et l'empêcher de se sucer ou de se mordre la lèvre quand les injections sont terminées. Après trois minutes, assurez-vous d'avoir produit l'anesthésie. A ce moment s'il y a certitude d'engourdissement de la lèvre et du menton on peut être assuré d'une anesthésie profonde. On peut éviter toute sensation due à une anastomose à travers la ligne médiane quand il s'agit de traiter des incisives inférieures sous anesthésie conductive en injectant $\frac{1}{2}$ cc. sous le périoste au niveau de l'apex de la plus médiane de ces dents. L'endroit où piquer se trouve situé au point le plus bas du repli muco-labial au moment où l'on tire la lèvre de bas en haut. Quelques gouttes laissées à cet endroit permettent une pénétration sans douleur plus profonde sous le périoste. Une anesthésie incomplète après cette injection peut être due à plusieurs facteurs tels des variations dans la forme des maxillaires, connaissance insuffisante de l'anatomie ou technique défectueuse. L'absence complète d'anesthésie peut dépendre d'une injection (1) trop basse (sous la ligne oblique); (2) trop haute dans le sigmoïde; (3) trop profonde dans la glande parotide, ou trop en dedans (dans le ptérygoïde).

Solutions anesthésiques et instruments

Une solution à 2% de procaine contenant 1:50,000 d'épinéphrine ou à 1% de monocaïne et épinéphrine 1:75,000 fraîchement préparée avec de l'eau distillée et des tablettes contenant des sels de Rigner, est très satisfaisante. En employant une solution faible en épinéphrine on ne prolonge pas indûment l'anesthésie. C'est particulièrement important dans l'administration de l'anesthésie conductive des enfants de moins de six ans, à cause du danger d'ulcères traumatiques que l'enfant peut se causer en se mordant les joues ou les lèvres. Les seringues et les aiguilles sont une partie importante de l'instrumentation. Nous avons trouvé que la seringue la plus commode à utiliser avec les enfants est la seringue tout en verre de 2 cc. Elle est légère, facile à manipuler et d'aspect moins effrayant pour l'enfant. Les aiguilles en acier inoxydable sont les plus sûres à notre disposition aujourd'hui. Nous employons l'aiguille Schimmel jauge 25, $1\frac{3}{8}$ de longueur.

Résumé

L'anesthésie conductive du maxillaire inférieur est recommandable pour l'extraction des dents permanentes et toutes temporaires que la résorption des racines n'a pas suffisamment ébranlées. Elle est aussi indiquée pour toute préparation de cavité dans les dents permanentes ou temporaires. Pour administrer cette anesthésie avec succès chez les enfants, il faut constater les variations de forme de leur maxillaire.

Pour s'assurer l'anesthésie profonde du nerf dentaire inférieur, il faut que la solution soit déposée dans le sillon ou se trouve l'entrée. Une connaissance insuffisante de l'anatomie mène à une mauvaise technique et à une faillite. Il semble aux auteurs que le dentiste moyen dans sa pratique quotidienne peut faire tout son travail sans douleur sans recourir à l'injection mentonnière, périodentaire, intra osseuse ou à l'infiltration. Ces injections sont naturellement supplémentaires et ne doivent servir qu'après la faillite des autres.

Dans le maxillaire inférieur l'anesthésie conductive est plus efficace et assure plus de résultats.

Influence des foyers locaux d'infection dans l'infection générale

L'infection amygdalienne, Ses relations avec la focal infection

par le Dr HENRY PROBY, Chef de Clinique Oto-Laryngologique à la Faculté

Ce n'est pas seulement un problème qui intéresse deux spécialités voisines qui se tendent la main sur une zone frontière: le Pharynx, c'est une question qui relève de la pathologie générale tout entière, et c'est en même temps une question d'actualité, car l'infection amygdalienne, cause d'infection générale, a fait le sujet du rapport de WORMS et LE MEE au Congrès français d'Oto-Rhino-Laryngologie de cette année.

Depuis plusieurs siècles, on établissait évidemment une relation entre une infection générale (albuminurie aiguë, rhumatisme) et une angine grave à grand fracas, mais on ignorait l'infection sournoise, qui, partie d'un foyer ignoré, provoque des lésions à distance.

Peu à peu, a pénétré l'idée d'une infection locale génératrice de foyers à distance: idée bien française, mais que les auteurs américains ont étudiée dans de nombreux mémoires et dont on tend à l'étranger à leur attribuer la paternité.

Il ne faut pas oublier, cependant, qu'au dix-septième siècle, un célèbre chirurgien français, Jean-Louis PETIT, dans son traité des maladies chirurgicales, écrivait et nous citerons ici les termes exacts par lesquels il exprimait sa pensée:

"La carie d'une dent est cause de quantité de maladies qui paraissent avoir peu de rapport avec les dents. J'ai vu prodiguer le quinquina à des malades que l'on croyait atteints de fièvre intermittente, leur en faire user pendant plusieurs mois et même plusieurs années à différentes reprises et sans succès et en leur faisant arracher une dent cariée, je les ai guéris de leur fièvre en très peu de temps."

Dans ces phrases sans prétention, Jean-Louis PETIT nous montrait de combien d'erreurs de diagnostic, ont pu être victimes bien des malades à cette époque. Mais d'autres après lui n'ont pas oublié l'étiologie dentaire, CHASSAIGNAC en 1859, RICHET en 1865.

Enfin, si chacun parle maintenant des théories de ROSENOW et BILLINGS, il faut se souvenir que depuis 25 ans, M. Julien TELLIER, bien avant la naissance des théories focales, a attiré l'attention des stomatologistes sur l'infection d'origine dentaire qu'il faut considérer comme un foyer d'infection première déterminante, source et porte d'entrée d'infection générale. C'est la traduction exacte du mot de focal-infection dans l'esprit des auteurs anglais, et non pas celle impropre, d'infection en foyers.

La bouche constitue un milieu de culture très favorable au développement des micro-organismes par sa température à peu près constante, son milieu humide et alcalin, le tartre qui s'attache sur le collet des dents.

Il est bien inutile de discuter *une question de préséance*. Les dents ou les amygdales jouent-elles un rôle plus important les unes que les autres dans les complications d'infection générale? Il faut simplement dire, que situées dans la même région anatomique, soumises au même microbisme latent, elles peuvent donner lieu aux mêmes complications et être décrites dans une étude d'ensemble.

Nous insisterons simplement sur celles qui se retrouvent plus particulièrement aussi bien dans l'infection amygdalienne que dentaire, en décrivant rapidement quelques symptômes pour montrer ensuite par quel mécanisme ils se produisent et sur quelles expériences physiologiques s'appuie la théorie focale.

En matière d'infection, toutes les modalités sont permises: infection générale sans localisation, septicémie, infection locale d'un organe à distance.

TOUT D'ABORD L'INFECTION GENERALE

Dans ce cadre, on retrouve de nombreux cas avec un début fébrile dramatique à 40°, à signes généraux graves qui tournent court au bout de quelques jours, ou au contraire, durent pendant des semaines avec des complications cardiaques ou articulaires. Dans ces formes, le sang contient toujours des microbes. Il s'agit soit d'une bactériémie discrète comme le disent BEZANCON et PHILIBERT, soit d'une diffusion infectieuse avec ou sans déterminations dans les organes (septico-pyohémie). Nous verrons le mécanisme de cette diffusion plus loin.

Le pharynx réagit d'une façon évidente. Le malade se plaint de troubles de la déglutition et de douleurs, tandis qu'un foyer dentaire peut rester longtemps méconnu, si l'on n'a pas l'attention éveillée sur lui.

Une variété curieuse d'infection générale est le *Septic Sore Throat*, qui se manifeste par une angine avec symptômes généraux très graves: température à 40°, dont l'agent pathogène est le streptocoque hémolytique qui se trouve en abondance dans le pharynx des sujets infectés. Aux Etats-Unis, on considère cette maladie comme une entité morbide parfaitement définie.

Deux sources d'infection sont certaines, l'une bovine: le lait, lorsqu'il n'est pas pasteurisé; l'autre humaine: le contact.

Pour en terminer avec les grands syndromes généraux, signalons les rapports de l'infection amygdalienne et du RHUMATISME. Pour les Anglo-Saxons, le rhumatisme aigu ou chronique avec ses manifestations d'arthrite, et même la chorée sont en relation étroite avec l'infection amygdalienne, et, nous insistons sur cette complication, car l'infection dentaire joue le même rôle.

POYTON, PATTERSON et SPENCE, en 1920, dans un travail très important, citent les arguments suivants:

1° Les amygdalites aiguës peuvent être suivies immédiatement de crises de rhumatisme articulaire graves, voire même fatales;

2° L'énucléation pendant la période inflammatoire peut être suivie de crise rhumatismale;

3° Sur 172 cas de rhumatisme, 22 avaient présenté une angine aiguë, 38 une hypertrophie et des lésions amygdaliennes, 17 enfin, avaient été tonsillectomisés et curettés depuis moins d'un an, et 13 présentaient toujours des manifestations chroniques.

En ce qui concerne la fréquence de l'infection amygdalienne par rapport à l'infec-

tion dentaire, il est curieux de constater que la balance penche de façon toujours variable suivant que la statistique est établie par un stomatologiste ou un laryngologiste. PAMBERTON est là pour nous départager. Médecin du Presbyterial Hospital de Philadelphie, en 1929, il publie le tableau suivant:

Cas avec foyer amygdalien: civils.....	46%
Cas avec foyer amygdalien: armée.....	61%
Cas avec foyer dentaire: civils.....	74%
Cas avec foyer dentaire: armée.....	46%

L'épée cède là le pas au modeste veston bourgeois. Malgré les arthrites reproduites expérimentalement par injection de streptocoque au lapin, certains ne sont pas convaincus de l'infection focale, témoin la conception de cet original médecin, de Malaga, CLARKE: Le rhumatisme, comme la maladie du sommeil, due à la mouche tsé-tsé, est propagée par la puce du rat brun, et là, nous nous croyons obligés de dire le mot latin: caratrophylus faciatus; elle ne peut vivre au-dessus de 70° Fahrenheit, d'où l'absence de rhumatismes sous les tropiques (aucun cas sur 150.000 malades en 30 ans) et sa présence dans les pays tempérés. CLARKE bombarde ses contradicteurs d'arguments géographiques et saisonniers et campe triomphalement sur les ruines fumantes de nos pauvres théories focales qu'il croit avoir détruites.

Quoi qu'il en soit, nous venons de voir que le rôle des amygdales infectées est certainement néfaste dans bien des infections générales, ce rôle s'étend à distance et nous allons voir que *bien des organes peuvent être touchés*.

Le POUMON peut présenter des abcès qui surviennent probablement par voie lymphatique, par l'intermédiaire des ganglions cervicaux et péribronchiques, ou par voie sanguine. Enfin, on voit des bronchites ou trachéites.

L'ESTOMAC nous intéresse tout particulièrement, car il résulte des travaux de Julien et Camille TELLIER, que l'ulcère d'estomac peut provenir d'un foyer dentaire ou amygdalien.

ROSENOW, en injectant à l'animal un streptocoque virulent, isolé d'abcès dentaire, aurait reproduit expérimentalement des ulcères de l'estomac ou du duodénum.

DUVAL, ROUX et MOUTIER n'ont pu renouveler ces expériences et sont moins absolus, mais même en s'appuyant sur la théorie moderne, où l'estomac attaque sa propre muqueuse par son suc, la digère en quelque sorte, la septicité du milieu favorise ce trouble.

L'INTESTIN peut également être touché. Une observation curieuse en fait la preuve expérimentale:

Boyd GARDNER, cité par Peisach RUDMAN, dépose dans les dents d'un chien, après les avoir dépulpées, du pus venant d'un malade atteint de troubles dentaires et intestinaux et les obture ensuite. Dix mois après, ce même animal présentait d'importantes lésions du colon. Nous ne savons pas si l'examen bactériologique avait été fait, mais même incomplet, le fait a la valeur d'une expérience physio-pathologique.

Rappelons enfin que les inflammations du gros intestin ne sont pas toujours causées par un microbe du milieu intestinal: le colibacille ou l'entérocoque par exemple. Le streptocoque, comment le disent SUMONT et BUTTIAUX, dans la *Presse Médicale*, en 1930, en provoque fréquemment. Vous connaissez la fréquence des associations fuso-spirillaires dans les suppurations de la bouche et des dents, dans l'infection amygdalienne, dite angine de Vincent; BOUCHET et LEROUX,

puis LAVERGNE, ont pu mettre en évidence des lésions amygdaliennes et des lésions intestinales dues à ce même microbe.

Pas plus que l'intestin lui même, ses diverticules n'échappent à l'infection,

L'APPENDICE EN PARTICULIER.

Nous connaissons une observation de M. CAILLON, qui date de vingt ans, où une crise d'appendicite coïncidait nettement avec les accidents provoqués par l'éruption d'une dent de sagesse et nous sommes sûrs qu'avant Boyd GARDNER, bien d'autres les ont déjà signalés.

Pour frapper votre esprit, nous voudrions vous rapporter l'histoire suggestive de six jeunes cadets, partis pour un long voyage sur un navire-école. Ces faits sont rapportés par un médecin allemand, en 1912.

En mars 1910, le premier cadet présente deux poussées appendiculaires coïncidant avec une légère angine, puis une véritable crise d'appendicite en juillet. Dix jours après, le second a mal à la gorge et en même temps des symptômes d'appendicite et ainsi de suite, comme l'échafaudage léger d'un château de cartes, chaque marin inocule son compagnon. Trois, quatre, cinq, six officiers, à quinze jours d'intervalle, font successivement une angine et une crise d'appendicite avec plastron abdominal et vomissements.

N'est-ce pas au moins une coïncidence curieuse et peut-on nier les rapports qui existent entre ces deux organes lymphoïdes: l'appendicite et l'amygdale. ROSENOW affirme avoir provoqué, par inoculation de produits septiques d'origine amygdalienne et dentaire, des foyers infectieux dans la vésicule et le pancréas, comme il en avait provoqué dans l'estomac et l'intestin; un point est intéressant, on ne retrouve pas le streptocoque dans la bile, car il est tué par elle, mais il existe dans la sous-muqueuse, c'est le contraire pour le colibacille. Le streptocoque permet de reproduire expérimentalement les lésions.

LE REIN est aussi un organe très souvent lésé. BRUNETTI et MALAN ont présenté un rapport complet sur la question, au Congrès Italien de Laryngologie de 1928. Il semble que ce soit encore un de nos Maîtres français, LASEGUE, en 1868, qui ait le premier signalé la lésion rénale dans les angines. Le rein est essentiellement un filtre, un organe d'épuration. Par lui passent tous les poisons qu'élimine l'organisme, il sera donc touché au premier chef dans les maladies infectieuses, puis dans les intoxications par les poisons exogènes comme la cantharide par exemple, quand, du temps de nos pères, on se couvrait chaque territoire cutané de vésicatoires, enfin dans les autres intoxications, c'est-à-dire les lésions dentaires en particulier, au même titre que les amygdales. Toutes les formes cliniques se voient: *néphrite aiguë* avec *hématurie*, où le malade urine du sang pur, *néphrite chronique* avec *anurie*, œdème des tissus, *hypertension* plus rare.

Nous arrivons à une complication qui est chère à plusieurs d'entre-vous, qui a été étudiée par DOR, de Lyon, et qui a suscité d'innombrables travaux en Amérique. Ces travaux ont trouvé leur écho dans le rapport de FROMAGET, en 1924, à la Société d'Ophtalmologie, et dans celui de WORMS et BERCHER, au Congrès de Stomatologie, en 1925.

CE SONT LES COMPLICATIONS OCULAIRES, Cependant les Ophtalmologistes français, dans l'ensemble, demeurent sur la réserve; ils admettent bien l'influence des lésions du pharynx sur les affections du segment antérieur, mais discutent l'existence des lésions à distance, iritis, névrite optique. Pour l'iritis, le rhumatisme qui peut être d'origine amygdalienne en provoque, nous avons là une double cause.

ROSENOW, expérimentant sur les animaux, a montré que des cultures provenant

d'un foyer dentaire ou amygdalien, injectées dans les veines, peuvent produire une inflammation métastatique des membranes profondes (uvéïte) et qu'à son tour une culture provenant de cette inflammation, injectée dans les veines d'autres animaux, pouvait créer une lésion identique. Pour WHITE (1928), les névrites optiques dites rétro-bulbaires sont produites avant toute autre cause par l'infection des dents et des amygdales. Nous ne ferons que signaler:

LES TROUBLES NERVEUX, les troubles du caractère, les psychoses caractérisées que l'on voit dans toute infection latente pour insister d'avantage sur: *les rapports de l'amygdale et du corps thyroïde*. Des goïtres ont disparu après l'ablation des amygdales, la désinfection du pharynx en fait regresser quelques autres, l'explication est obscure. S'agit-il de connexions veineuses de voisinage? L'amygdale, organe de défense, a-t-elle des relations fonctionnelles avec le corps thyroïde? Il est sûr que certaines angines peuvent s'accompagner de goïtres aigus qui disparaissent avec elles.

Devant ces phénomènes étranges d'infections associées, devant ces complications si éloignées d'un foyer latent, on peut se demander avec raison quel en est le VERITABLE MECANISME, c'est ce que les auteurs américains ont cherché à mettre en lumière. Pour qu'une infection émanée d'un foyer se déclare, il faut deux conditions, l'envahissement de la circulation par le microbe par voie sanguine ou lymphatique, la réceptivité de l'organisme. Il y a *bactériémie* quand la bactérie est présente dans le sang, c'est l'état le plus fréquent dans la focal-infection. Des microbes sont emportés par le torrent circulatoire et jouent le rôle de *minuscules embolies*. La voie lymphatique peut-être aussi incriminée, les bactéries se retranchent dans les ganglions comme dans des points fortifiés et se répandent dans le sang par le même processus signalé plus haut.

La toxémie est plus rare. Le microbe meurt, mais laisse ses poisons, ses toxines, soit dans le foyer, soit loin de lui. Il sensibilise le milieu humoral par ses protéines et provoque des phénomènes d'anaphylaxie. Enfin, l'organisme peut être plus ou moins atteint par une tare organique, par une maladie antérieure.

Là intervient sa réceptivité.

Il importe donc de rechercher *les signes de l'infection* puisqu'elle ne se manifeste par aucun symptôme apparent. La constatation de ganglions augmentés de volume, au niveau du cou peut être une présomption. Il faudra déceler le ganglion tonsillaire vers l'angle de la mâchoire entre la jugulaire interne et les veines faciales, la bande rouge sombre du pilier antérieur, signe décrit par André BLOCH, sous le nom de signe de BOURGEOIS, les cicatrices de l'amygdale visibles à l'œil nu, ou à l'éclairage sous le pôle inférieur.

Certains moyens d'exploration peuvent donner des renseignements, la ponction de la tonsille et la culture de ce qui est retiré. Toutes les variétés de microbes se retrouvent, le staphylocoque fréquemment, le streptocoque, le pneumocoque et bien d'autres, sans oublier le bacille fusiforme.

AU POINT DE VUE BACTERIOLOGIQUE. POUR SCHOTMULLER (Congrès Allemand, 1914) deux notions sont fondamentales dans le mécanisme de l'infection: la *transmutabilité du groupe streptocoque-pneumocoque*. Ce sont des microbes qui ont tous un air de famille. Ils se ressemblent tous, et peuvent se substituer les uns aux autres par des degrés insensibles.

L'action sélective sur chacun des différents tissus de l'organisme. D'après ROSENOW, chaque foyer d'infection focale est en somme une petite république, où sommeillent, en vivant sans souci comme tout bon prolétaire, les microbes banaux, et où règnent les microbes pathogènes en bonne entente avec les premiers. Survient

une révolution, une poussée aiguë, les microbes pathogènes, les grands microbes profitent des efforts des microbes banaux qui entretenaient une légère infection chronique, vont se multiplier, étouffer les autres et se répandre partout, acquérant le pouvoir métastatique.

L'équilibre est rompu, les états se désagrègent, ce sont les envahisseurs du territoire. Cette théorie implique l'unicité du microbe et sa spécificité dans certaines conditions, et pour certains organes. Malheureusement, et nous rapportons ici l'avis d'un bactériologiste de l'Institut Pasteur, les travaux les plus récents ne permettent pas de différencier un germe pathogène d'un non-pathogène.

La révolution n'existe pas encore dans la république microbienne, heureux microbes! Il nous faut donc renoncer à cette explication ingénieuse, mais qui ne repose pas sur des bases scientifiques certaines. Si nous nous reportons sur le terrain clinique et expérimental, nous pouvons tout au moins chercher le *test amygdalien* qui nous donnera des indications pratiques sur la réaction de défense de l'amygdale. En effet, par le massage de la glande ou par son ventousage à l'aide d'une pipette aspiratoire buccale, on fait passer dans la circulation des produits de sécrétion de l'amygdale.

A l'état normal, l'amygdale contient une *substance dite antitoxine*, fabriquée par elle, qui a une action sur la production des globules blancs du sang, elle diminue leur nombre, c'est le *pouvoir lymphopénique*. Si donc, à l'état normal, le massage fait diminuer les lymphocytes, *une infection légère paralyse cette action: la formule ne change pas*. Une infection grave envoie des poisons dans le sang et provoque, au contraire, un afflux de globules blancs, c'est-à-dire une augmentation des polynucléaires. Parallèlement, on voit apparaître des signes cliniques: douleurs articulaires légères, œdème, élévation du taux de l'albumine. Signes microbiens, signes cliniques ne sont malheureusement pas d'apparition mathématique. En combinant les uns et les autres, on peut arriver à avoir une opinion, surtout quand le test est négatif. On peut éliminer ainsi l'amygdale dans une infection focale, et orienter ses recherches vers un foyer dentaire, où les moyens d'investigation ne sont pas aussi faciles.

Ce sera la conclusion de cet exposé que nous aurions voulu moins aride. Il est certain que les amygdales et les dents ont un terrain commun. Il est curieux de constater l'analogie de leurs troubles. La tuberculose provoque l'atrophie des amygdales et du tissu adénoïde, comme elle provoque la décalcification des dents, leur neutralisation physiologique.

Il en est de même pour les infections banales. Il faut considérer les amygdales, organes lymphoïdes, comme de véritables ganglions qui subissent le contre-coup des inflammations, survenant dans leur territoire, constitué essentiellement par les sinus, les gencives et les dents. L'amygdale serait ainsi le véritable miroir de l'infection dentaire.

Il faudra ne pas les séparer dans l'examen clinique et, tout en se gardant d'opinions trop absolues qui sont la rançon des théories systématiques, les associer dans l'étude de bien des complications que nous pourrions prévoir et guérir

Acryliques—Questions et réponses

par le Dr MAURICE N. STERN

Question: Comment prépare-t-on une incisive centrale dévitalisée en vue d'une couronne en acrylique?

Réponse: De la racine préparée, prenez une impression avec une bande de cuivre et reproduisez en "Diolite". Dépouillez le modèle et mettez tremper quelques heures dans de l'huile claire comme l'huile de pied de boeuf ou du 3 dans 1. Sur la bout de la racine et autour de sa face linguale et des faces proximales (environ 1.5 m.m. en profondeur sous le bord libre de la gencive), comprimez (swedge) une feuille de cire à incrustation de jauge 28. Vis à vis l'entrée du canal radiculaire percez un trou au moyen d'un explorateur chaud, faites pénétrer de la cire fondue dans le canal et enfoncez-y une tige d'acrylique incolore. Elle servira de tige de coulée et aidera à retirer le modèle. La tige d'acrylique brûlera aussi bien que la cire. Le pivot, la plaque et son 2/3 de collet une fois coulés et sur lesquels on cuira l'acrylique serviront de support adéquat et de protection contre l'éclatement de la racine.

Question: Comment prévenir le gauchissement du modèle de cire en le retirant d'une cavité selon la méthode directe?

Réponse: Même la meilleure cire à incrustation peut se déformer en retirant le modèle de la cavité. La plus sûre méthode de retirer une impression de sa cavité sans la déformer est d'y enfoncer une petite broche en forme de U avec des précelles chaudes. Quand la cire sera prise à la broche, on pourra retirer le tout de la cavité dans une seule direction malgré la résistance due au frottement des parois.

Question: Comment diminuer ou éviter l'effet matissant du métal sur les revêtements Steel en acrylique?

Réponse: En peignant le modèle qui reproduit la tige et la plaque avec une laque opacifiante on laisse bien sécher avant le bourrage. Si vous devez cuire votre revêtement d'acrylique sur une plaque ou une matrice Steele, appliquez la laque directement sur le métal. Cette couche se confondra avec le dos du revêtement (facing).

Question: Employez-vous des dents d'acrylique toutes préparées pour pont ou coiffe?

Réponse: Non. Les dents d'acrylique préparées d'un polymère et d'un monomère sont beaucoup plus résistantes que celles faites seulement de polymère.

Toutes les questions doivent être adressées au Dr Maurice N. Stern, 114-06 Queens Boulevard, Forest Hills, New York, U.S.A.

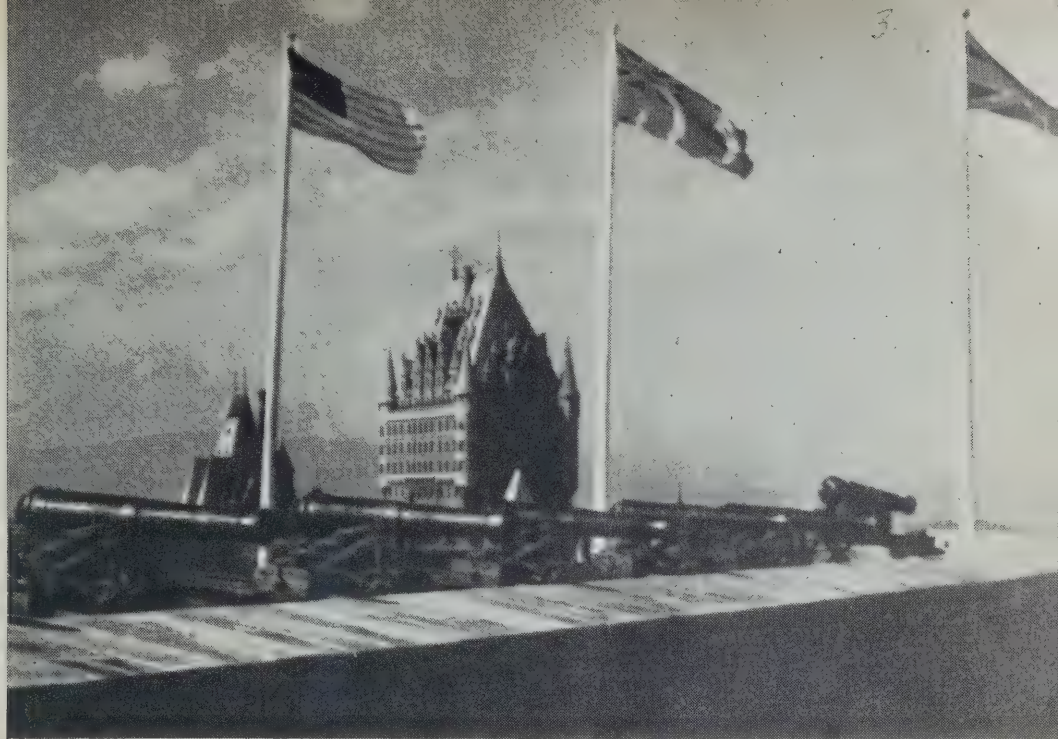


Photo by Edwards, Quebec.

"FLAGS OF FREEDOM—FLAGS OF FREEMEN—FLAGS OF VICTORY"

Submitted by D. A. Déry, D.D.S., L.D.S., Quebec.

(Dr. Déry is playing his part in our fight for freedom as his three sons have been serving in the Armed Forces since 1939.—Ed.)

QUIETNESS

"Be Still and know that I am God"

That I who made and gave thee life
Will lead thy faltering steps aright;
That I who see each sparrow's fall
Will hear and heed thy earnest call.
I am God.

"Be Still and know that I am God"

When aching burdens crush thy heart,
Then know I form thee for thy part
And purpose in the plan I hold.
Thou art the clay that I would mould.
Trust in God.

—DORAN.



W. C. CARRUTHERS, D.D.S.

Saint John, New Brunswick.

New Brunswick Editor of the Journal of the C.D.A.

Past President, New Brunswick Dental Society.

Graduate of R.C.D.S. of Ontario, 1924.

Dental Officer, Lancaster Hospital, Saint John.

Overseas, 6th Canadian Siege Battery, 1916-1918.

The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 10

TORONTO, AUGUST, 1944

NO. 8

The Technique of Intra-Oral Radiography *

By JAMES COUPLAND, D.D.S., Ottawa, Ontario

THIS clinic is dedicated to the premise that the production of an acceptable dental radiograph is not accidental. On the contrary it is the product of a series of technical procedures each of which must be executed with care and precision. It will be agreed without question that in the construction of a gold inlay meticulous attention must be given to preparation of the cavity, making the pattern, investing, casting and finishing. Failure of any one of the component operations will impair the completed inlay. A more general realization that this principle applies equally to dental radiography would result in a much needed improvement in the service. A consideration of the progressive steps in making an intra-oral radiograph follows.

INSTRUCTION OF THE PATIENT

Unlike most dental operations successful radiography depends to a considerable degree on the patient's co-operation. For this reason a moment can be devoted profitably to instructing patients on what is expected of them with special emphasis on the importance of preventing movement.

EXAMINATION OF THE MOUTH

Like any other dental procedure a preliminary examination of the mouth is desirable. Details to be observed are the number of missing and malposed teeth, the height of the palate, the inclination and probable length of the roots, the presence of any fixed or removable restorations and any anatomical abnormalities such as exostoses. At this time an estimate of the exposure required should be made.

ESTABLISHING HEAD POSITION

This is the foundation upon which all subsequent procedures depend. It is comparative in importance to the cavity preparation in inlay construction. To obtain the desired head position an erect sitting posture is essential. This is best accomplished with the seat of the dental chair horizontal to the floor with the back vertical to it. The basic position for examining all the upper teeth and lower posteriors is with the occlusal plane paralleling the floor in both lateral and antero-posterior dimensions. For the lower incisor and cuspid examinations the long axis of the teeth should be vertical to the floor. Since there is a

* Read at the Fall Clinic of the Montreal Dental Club, October, 1943.

constant tendency for the patient to change the head position a correction usually is necessary between each exposure.

To prevent avoidable stooping the chair should be elevated to a height which brings the patient's mouth opposite the operator's axilla.

FILM PLACEMENTS

A minimum number of sixteen periapical views is recommended by Simpson¹. To provide adequate coverage in a mouth having a full complement of teeth. A definite placement is prescribed for each exposure. There is ample reason why each placement is chosen. The objective is to have the whole of every radiograph as useful as possible. One should never lose sight of the fact that all the available information in a region cannot always be obtained in one exposure. Additional views frequently are necessary. This is especially true in the upper molar areas.

Faithful adherence to the placements recommended is profitable. Orderliness is given to the completed set of radiographs and, what is more important, repeated examinations of the same region are more easily duplicated or modified. Important diagnostic decisions may depend on comparison of radiographs taken at intervals. The more constant the technical factors the more helpful will be that comparison.

It is worth remembering that the dimensions of the mounted films are appreciably smaller than those of the packets. Therefore, care must be exercised to make sure that vital information is not projected so close to the edge of the film that it will be cut off in the mounted radiograph.

For maxillary and mandibular incisor and cuspid views the longer dimension of the packet is placed vertically—for the bicuspid and molar placements horizontally.

PREPARATORY BENDING OF PACKET

Since shadow pictures can be recorded with least distortion on a flat

surface the packet should be kept as flat as possible. However, a moderate amount of judicious bending is necessary to give proper adaptation and to minimize discomfort to the patient. When the floor of the mouth is shallow this is especially important. Every effort is made to prevent the apices of the teeth from being projected on a curved surface. The preliminary bending is designed to adapt the packet so that the curved part will record information of least diagnostic value.

SYMMETRICAL IMAGE PROJECTION

The position of the vertical edge of the packet is constant for each placement but the inclination of the vertical axis is determined by the inclination of the teeth and the relation which their images will have to the coronal edge of the packet. For example, since the bucco-lingual width of the upper bicuspid is greater than that of the cuspid the distal of the packet must be dropped lower to make the images in the completed radiograph an equal distance from the lower edge.

POSITION OF THE OPERATOR

It is recommended for placing films and adjusting the machine that the operator should stand on the same side of the patient as the region to be examined.

RETENTION OF THE PACKET

For upper placements use the patient's thumb of the hand on the opposite side to that which is being examined. The patient's thumb is directed to the location desired by the operator. For lower incisor and cuspid placements the patient's index finger of the hand on the opposite side is used. The retaining finger is directed to the lower third of the packet so that the tendency of the lower half of the film to curl upward is minimized. For lower bicuspid and molar place-

DR. JAMES COUPLAND



ments where teeth are present the use of wooden film holders is the method of choice. When the region is edentulous the index finger of the opposite hand is employed.

DIRECTING THE RAYS

This is divided into three distinct adjustments.

(1) *The Vertical Angle of Projection.* This is calibrated in degrees on all machines. It determines whether the images are the same length as the teeth. Improper angulation in this dimension results either in foreshortening or elongation.

(2) *The Mesio-distal Angle of Projection.* This determines whether accurate profile images are obtained or whether the images are distorted. Improper angulation results in overlapping of the approximal surfaces. Attempts at calibrating machines for the determination of this angle have never been successful. It is left to the operator's judgment. For this reason it is the hardest to teach.

(3) *Centering the Cone.* Contrary to the popular conception all the rays emitted from the target of an x-ray tube are not parallel. Those nearest the perimeter of the circle of radiation diverge as much as 11 degrees from those in the centre. Hence it is

highly desirable to utilize the rays nearest the centre of the bundle. For this reason the cone on modern equipment is pointed. This tip should be directed to the part of the film where the most vital detail is to be recorded, namely, midway on the root between the crown and the apex of the tooth in the centre of the region. In all dental machines the circle of radiation is larger than is needed to expose a $1\frac{1}{4}$ " x $2\frac{1}{8}$ " film which is the largest intra-oral packet made. Reducing the circle of radiation to a diameter of approximately $2\frac{3}{4}$ " serves two purposes. Firstly, the use of the most divergent rays near the perimeter is prevented and secondly, the amount of secondary radiation is reduced.

SOFT TISSUE MANIPULATION

After the packet is placed and retained in its proper position the overlying soft tissues should be adjusted.

In the incisor views the lips should be drawn over the teeth. Omission of this precaution will result in an objectionable line of demarkation. For cuspid and first molar views the corner of the mouth should be brought forward by puckering the lips. This will eliminate the cheek fold which otherwise will be recorded diagonally across the finished radiograph. In making the median incisor picture the tip of the nose should be raised with the cone in an attempt to eliminate superimposition of the nasal tissues from the apices of the teeth. This can be accomplished in 80% of cases.

PHOTOGRAPHIC PROCESSING

Where facilities permit it is desirable to have the radiographs processed while the examination proceeds. This procedure has two important advantages. In the first place, having seen the first couple of views any necessary correction in exposure and angulation can be made so that the entire set is not defective. Secondly, the series is completely developed before the patient is dismissed. Any radiographs spoiled by movement or other technical deficiencies can be retaken and additional views can be made when necessary.

No matter what developing solution is used it should be carefully maintained at the temperature recommended. During the summer months when the water supply rises above 65 degrees Fahrenheit ice should be used. Fresh developer should be prepared when the old solution shows any appreciable slowing up or noticeable discolouration. Ordinarily the fixing solution deteriorates less rapidly. The time to renew the hypo. bath can be determined as follows; when a fresh batch is prepared observe the time required to clear an unexposed film—this is usually 30 seconds; when twice as long is required the solution should be renewed.

It is a wise precaution from time to time to unwrap an unexposed film in

the dark room and leave it for two minutes on the bench before it is developed. After being processed by the routine technique it should be examined for fog, the presence of which indicates defective films, light leaking into the dark room or faulty chemical solutions.

FILMS

Regular films are recommended where their use is practical. They give better photographic quality because there is more gradation in the half-tones between black and white. The detail is sharper because the emulsion is coated on one side only. There is more latitude in exposing them. They are more easily reduced and are less likely to be scratched in processing and mounting than are double coated films. They are more suitable for use with an accelerated developing solution. In spite of all these advantages it is unfortunate that the use of regular films is often considered prohibitive because of the length of the exposure required by most dental x-ray machines.

Any discussion of this subject would be incomplete without some reference to bite-wing films. Interproximal examinations have become indispensable features of a complete radiodontic survey.

X-RAY MACHINES

Since all x-ray machines produced for dental use possess the same deficiencies there seems to be little to choose between them. It is to be hoped that in reorganization for post-war production the manufacturers will design machines with greater capacity. This would permit the use of regular films at a greater target distance than that now employed. Fifteen inches should be the minimum. A variable voltage control also would be desirable. Bibliography, Simpson, C.O. —*The Technique of Oral Radiography*, C. V. Mosby Co.

Problems In Differential Diagnosis

by GEORGE A. MORGAN, D.D.S., Toronto, Ontario

ANTERIOR MAXILLARY REGION

PROBABLY the most commonly misinterpreted differential diagnostic problem to be found in the anterior maxillary region is that of the various types of cysts. This is due in part to the fact that dental literature contains few differential diagnostic references to these conditions.

Three types of cysts are most frequently observed in the Anterior Maxillary Region—

- (1) Incisal Cysts.
- (2) Radicular Cysts.
- (3) Dentigerous Cysts.

Incisal Cysts are situated in the incisal canal and their incidence is not

less than one in every hundred. They are supposedly derived from epithelial remnants which persist in the interincisive region. Pathologic sectioning will reveal that their lining membrane is ciliated, transitional, and squamous epithelium, demonstrating that, in part at least, they belong to nasal structure. The majority of these cysts lie well within the anterior palatine canal, and it is therefore difficult to distinguish roentgenographically between them and the anterior palatine fossae. When these cysts are displaced laterally as is frequently the case in roentgen rays taken in the anterior lateral position, they may be superimposed over the lateral in-



FIG. 1.

Large Incisal Cysts which have invaded the palate. Note division of cyst by median line suture.

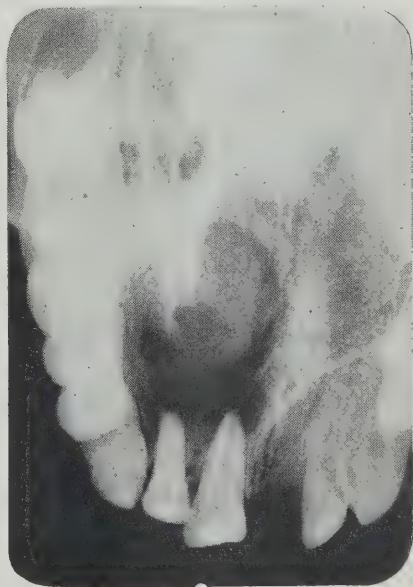


FIG. 2.

Large Radicular Cysts which have invaded the palate. Note cyst is to one side of median line suture.

cisor roots and thus easily be mistaken for a radicular cyst.

Incisal Cysts which are limited in size are considered to be without clinical significance. Frequently however, these cysts will become infected, enlarge, and breaking down the walls of the anterior palatine fossae, invade the palate. Probably some of the Median Line Cysts of the maxilla whose aetiology is obscure should be classified. In many instances they have been known to exert sufficient pressure on the anterior palatine nerve to produce considerable pain.

Dentigerous Cysts may be observed in the anterior maxillary region, associated with either impacted, or supernumerary anterior teeth. Pathological-

ly the Dentigerous Cysts contain but few round cell infiltrations which tend to characterize them as non inflammatory.

Probably the best aid in roentgenological differential diagnosis is to observe the condition in an occlusal ray, not depending entirely on the customary intra-oral dental ray of the maxillary central incisors. Incisor Cysts will generally be observed to be spherical and divided by the median line suture as illustrated in figure 1. This will be found to be in strict contrast to cysts or infected areas about central or laterals which have a tendency to be observed situated to one side of the nasal spine as illustrated in figure 2.

Schoolmaster Abroad

QUESTION:

WHAT IS THE ANSWER FOR A MOTHER WHO MAKES THE FOLLOWING STATEMENT? — "DURING MY CHILDBEARING PERIOD I FOLLOWED THE ADVICE OF MY PHYSICIAN. THREE MONTHS AFTER MY DAUGHTER WAS BORN SHE WAS PLACED UNDER THE CARE OF A PEDIATRICIAN. EVER SINCE SHE WAS OLD ENOUGH SHE HAS HAD FOUR GLASSES OF MILK AND A BIG GLASS OF ORANGE JUICE EVERY DAY, ALSO GREEN VEGETABLES, WHOLE-GRAIN CEREALS AND BREAD, ALSO COD-LIVER OIL, AND NOW YOU FIND TEN CAVITIES IN HER TEETH. I WANT TO KNOW, WHY?"

ANSWER:

Taken from a radio address entitled "Diet and Teeth" by Kenneth A. Easlick, A.M., D.D.S., Ann Arbor, Michi-

gan, Associate Professor of Operative and Public Health Dentistry, University of Michigan; and appearing in the January, 1944 issue of the American Journal of Orthodontics and Oral Surgery.

Usually I ask the mother this question, "Does your daughter eat sweets?" And usually she replies, "She eats very little. We have simple desserts like custards; she gets a little sugar in her fruit juice; she has a little sugar on her cereal; and she doesn't eat nearly so much candy as other children in the neighbourhood—once or twice a day perhaps, always after a meal. When we have sweets, we have the natural sugars like jelly, jam, maple syrup, or honey."

Then I ask some more questions, "Does your daughter chew gum?" Usually I get the answer, "Yes, she likes gum and chews it every day. We think gum is much better for her, you see, than candy." I remind mother that a stick of gum has about a half-teaspoonful of sugar in it, and it is held in contact with the teeth until every last bit of sweetness is extracted.

Then I ask, "Does she like pop or other soft drinks?" Usually the reply comes, "Yes she likes orange, or root beer, or some other flavour." Again I remind mother that some of these soft drinks have in them the equivalent of a tablespoonful of sugar per bottle.

I again ask, "Does she like chocolate milk?" Frequently I get the answer, "Well, we had some trouble with her about milk, but she likes milk when it has chocolate in it and she drinks it readily." Once more I remind mother that chocolate milk is sweetened milk.

I may ask, "Do you have much canned fruit in the winter months?" Almost always I get the reply, "Yes, we like canned fruit." I then have to recall the thick syrup that is on most canned fruit.

I probably conclude with a question about white flour to find out about the amount of refined starch in the diet. I find that white flour is used in variable amounts. Some families eat white bread; some children nibble at crackers frequently; many families like hot biscuits; many families like heavy pastry desserts; and in some households grandmother still keeps the cookie jar well-stocked. Where white flour is consumed, I have to point out that refined flour has lost its minerals with the husk and germinal portion of the wheat, and it consists, therefore, of almost pure, finely-milled starch. Refined starch is readily broken down to sugar by a child's saliva.

This bit of detective work, to search out the sugar in the family diet, is not an attempt to put mother on the defensive—not at all. It does show the many ways in which sugar insinuates itself into the usual American family diet. Back in Paul Revere's time (Paul Revere, you know, was one of the earliest American dentists!), almost no pure sugar was consumed, and there was very little need for dentistry.

Figures indicate that the last year before rationing about one hundred and seventeen pounds of sugar per person were consumed in the United States. At the same time less than five young adults per hundred had escaped decayed teeth.

Children, like automobiles, do not require "ethyl" carbohydrates for quick-starting; they can get along on "regular" carbohydrates splendidly. Starting with a basic diet which has almost no sugar and very little starch in it, the acid-forming bacteria in a person's mouth can be reduced drastically in two weeks. At the end of that period four glasses of milk per day may be added, whole-wheat bread each meal, and potatoes for two meals; then any child or adult will have an abundance of starch and sugar for all energy demands. Balance studies have demonstrated the statement to be a fact that "The starches in the primitive American-Indian diet are ample for all energy."

For the last six years I have watched low-sugar diets stop cavities for entire families in my own practice. One family has been unusually well pleased. After the initial cold plunge with such a diet, the two small daughters and father and mother all found that they soon lost their appetite for sugar. The little girls were pleased because they had no further cavities (going to the dentist to get one's teeth cleaned, only, is fun!). Father and mother were pleased because they too had no more cavities. But more than that, mother retained her girlish figure and father lost an accumulated "front porch."

I recommended a well-balanced, well fortified diet for my patients; one sufficient in milk, eggs, butter, meat, coloured vegetables, fresh fruits, whole-grain cereals, whole-grain bread, and cod-liver oil. I always add, however, "Keep the sweets low to help prevent tooth decay!"

The man who wants his dreams to come true must wake up.—Anon.

The Forum

FLUORINE, CARIES AND PYORRHEA

by B. GOTTLIEB

From the Department of Oral Pathology and Dental Research, Baylor University Dental College

Reprinted from Texas Dental Journal, June, 1944

THE teeth consist of two parts, the clinical crown and the clinical root. The epithelial attachment is the dividing line. The desirable qualities of the surfaces of these two are opposite. The crown surface should be impermeable so that no micro-organism can invade. Nature is able to take care in that direction by hornification and calcification. Here we are interested in calcification. If the entrances to the organic roads are obstructed by calcification, caries cannot develop. Caries is produced by invasion of certain microorganisms into the organic roads.

Quite different qualities are ideal for the surface of the clinical root. Its purpose is to offer an attachment to the periodontal fibres. The more calcified this surface is the less it can fix the collagenous fibres. For many years we have considered a cementum surface as ideal, if it was not calcified. Such a noncalcified surface represents a barrier against down growth of the epithelial attachment. Epithelium never grows over uncalcified cementum. It offers ideal attachment possibilities for fibres. If the cementum is calcified, the attachment possibilities are impaired and the tooth is not fixed to the surrounding tissue. THE SAME QUALITIES WHICH ARE IDEAL FOR THE CLINICAL CROWN ARE THE WORST FOR THE CLINICAL ROOT.

Let us at first analyze fluorine action in a general way. ALL PHENO-

MENA OF FLUORINE ACTION ON TEETH DURING DEVELOPMENT AND AFTERWARDS ARE BASED ON THE FACT OF POWERFUL ATTRACTION BETWEEN FLUORINE AND CALCIUM. Here we are interested in the relationship between fluorine and caries. We have to differentiate between the influence of fluorine on developing enamel and its influence on erupted enamel. In order to find out the quantitative relationship between these two parts we will use the data published by Dean and co-workers. Comparing caries incidence in fluorine and non fluorine areas they found that caries incidence in non fluorine areas is about 2.5-3 times higher than in fluorine areas. Comparing the results on the upper 4 incisors, which are constantly washed by the drinking water, the difference increased to 16 times. If we consider that the general count included the front teeth and that drinking water may affect other than the front teeth, although to a far smaller extent, we might get some idea of the two ways in which fluorine increases resistance to dental caries. Erupting fluorine enamel may have 1.5 times greater resistance to dental caries compared with teeth developed under non fluorine conditions. The main part of increased resistance is acquired by drinking fluorine water after tooth eruption.

Let us try to find out how fluorine acts in both instances. If we under-

stand the natural mechanism we might be able to duplicate nature's way. If fluorine is present in the enamel matrix, it attracts calcium to the prisms as well as to the prism sheaths and transparent, homogeneously calcified enamel results. Such a transparent enamel represents a barrier against invasion of microorganisms, increasing the resistance to dental caries, which is invasion of microorganisms along the organic roads. That transparent enamel appears to be responsible for that part of increased resistance to dental caries which is present in teeth which developed under fluorine conditions. The lamellae seem to be less affected by fluorine during formation.

When the teeth erupt and the surfaces are kept fluorinized the non-calcified parts, apparently including the lamellae, attract, by way of the present fluorine, calcium from the saliva obstructing the invasion roads. That is identical with increasing resistance to dental caries. From the statistics of Dean and coworkers we could learn that that action represents the major part.

That main part of fluorine action on enamel, attracting calcium by way of the presence of fluorine in the less calcified parts can be duplicated by a fluorine mouth wash as proposed by Atkins. (1) If we brush the teeth with the pure fluorine mouth wash (without dentifrice) dipping the tooth brush into the fluorine mouth wash for each step as we go around the mouth in brushing, then rinse the mouth with it thoroughly we fluorinize the organic matter. There are proofs at hand that the fluorine of the water which comes in contact with the teeth is not used up entirely by attraction of calcium of the tooth surface but that the non calcified organic matter is fluorinized so that it can attract calcium from the outside. In order to enable it to do so we furnish calcium, applied with a second tooth brush, in

the same way as we applied the first one. This second mouth wash consists of a saturated solution of calcium carbonate. If we repeat these twice a day we might get the same high resistance of all tooth surfaces to dental caries similar to what Dean and co-workers found for the front teeth.

In doing prophylaxis it will be advisable to use tricalcium phosphate mixed with 50% pumice and to use for rinsing a fluorine mouth wash. The calcium and fluorine will attract each other and will help harden the tooth surface. Thus we might compensate for the loss of the horny cuticle, removed where present by our doing first prophylaxis in a patient. We can thus duplicate nature's way of achieving a good effect on the surface of the clinical crown, by fluorinizing it and making it attract calcium.

If, however, fluorine comes constantly into the metabolism it also reaches the surface of the clinical root. Attracting calcium it impairs the condition. As long as the connective tissue succeeds in depositing another non calcified layer before downgrowth of the epithelium takes place, no harm develops. But if delay occurs, down-growth takes place in an accelerated way and an early loosening of the teeth takes place. If also in that form of cementopathia the females excel, statistics will have to show. It is possible that the slightest additional innersecretory damage accelerates the described result. It is alarming that people in fluorine areas lose their teeth very often at a young age.

Fluorine is good for the crown but detrimental for the root. Therefore it should be used only externally for the crown but should not be added to the drinking water. It should be removed from drinking water wherever possible. The mottling of the enamel is not the main damage. The loosening and loss of the teeth should be fought.

1. JADA 31:353, 1944. He recommends: 4 liters tap water plus 1 gm sodium fluoride, flavor, sweeten and color. Teasp. in $\frac{1}{2}$ glass water.

THE PHARMACOPEIA AND THE DENTIST

*"Drugs, they sometimes cure, they often relieve,
they always console."*

by JOHN C. KRANTZ, Jr., Ph.D., Professor of Pharmacology, University of Maryland, School of Medicine, Secretary of the Revision Committee of the U.S. Pharmacopeia.

THERE are 2 classes of men upon whom the law confers the rare privilege and grave responsibility of prescribing drugs; one is the physician and the other is the dentist. To provide an authentic compendium of drugs and medicines of conceded therapeutic merit and to provide standards for their identity and uniformity, the Pharmacopeia was established.

Let us take a glance at some of the more modern accepted agents which to advantage may be included in the dental therapeutic armamentarium.

NICOTINIC ACID and nicotinamide tablets are available 25 mg. or $\frac{3}{8}$ gr. Recently these products have been found useful in the treatment of Vincent's stomatitis. Here by systemic treatment, cases refractory to local application of arsenicals, often yield and a rapid cure is effected.

MILD TINCTURE OF IODINE with 2% of iodine instead of 7% and sodium iodide instead of potassium iodide is a distinct improvement in local iodine therapy. It is equally as effective as a germicide and an astringent and is far less irritating.

TABLETS OF PENTOBARBITAL SODIUM 0.1 Gm. or $1\frac{1}{2}$ gr. (Nembutal Tablets) are a trustworthy and dependable sedative for dental use. This rapidly acting barbiturate (15 minutes) allays fear, vexation and anxiety and

serves as a prophylaxis against untoward response following procaine hydrochloride injections. For sedation of longer duration phenobarbital sodium tablets (Luminal) 0.1 Gm. or $1\frac{1}{2}$ gr. are officially recognized in the Pharmacopeia.

TETRACAINE HYDROCHLORIDE (PONTOCAINE) is recognized as a local anaesthetic of greater potency than procaine hydrochloride. It should be emphasized that concomitant with this greater degree of potency is a greater degree of toxicity.

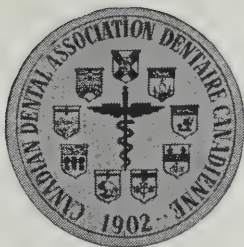
As analgesics, the tablets of acetylsalicylic acid 0.3 Gm. or 5 gr. and codeine sulfate 30 mg. or $\frac{1}{2}$ gr. are admirably suited for dental work.

CHLOROAZODIN (AZOCHLORAMID) is an especially potent chlorine bearing organic compound which is believed to possess specificity for the protoplasm of many pathogenic organisms. It is rapidly replacing its early precursors, Dakin's Solution and chloramine T. Locally in conjunction with the sulphonamides the bacteriostatic effect of the latter is enhanced.

It is true, "that it takes a long-necked observer to see the whole firmament out of one window" but the Pharmacopeia and its companion book the National Formulary provide a window of dental therapy with a broad perspective and vision that is unblurred by prejudice or caprice.—*Dentistry a Digest of Practice.*

Eastern Ontario Dental Association

The 67th Annual Convention of the Eastern Ontario Dental Association will be held at the Chateau Laurier, Ottawa, Ontario, September 17, 18, 19, 1944. A cordial welcome is extended to all members of the profession.—
C. Murray Purcell, Secretary.



Editor: M. H. GARVIN, Winnipeg

Assistant Editor: T. R. MARSHALL, Toronto

Associate Editors:

PRINCE EDWARD ISLAND:

D. T. Waye, Charlottetown

QUEBEC:

E. M. Laurin, Montreal

SASKATCHEWAN:

F. C. Harwood, Moose Jaw

NOVA SCOTIA:

S. G. Ritchie, Halifax

ONTARIO:

T. R. Marshall, Toronto

ALBERTA:

John Clay, Calgary

NEW BRUNSWICK:

W. C. Carruthers, Saint John

MANITOBA:

J. F. Morrison, Winnipeg

BRITISH COLUMBIA:

H. M. Cline, Vancouver

Health Services For Canada

There is a legend that Daedalus, the Greek hero who first learned how to work with steel, toiled long and hard with his forge and anvil to fashion a sword. This he presented to King Minos to replace his old one made of bronze. The citizens of Crete came to him in consternation. "The sword will not bring us happiness," they complained, "it will bring us strife." "It is not my purpose to make you happy," replied Daedalus. "I will make you great."

Dental Science is the sword of Daedalus. His sword represents the weapons we are fashioning with the aid of science. As his steel, so our science, our dental education, brings conflict and changes in many of our treasured traditions. Our greatest problems at this present time are, of course, the question of State Control of our profession, the question of compulsory Health Insurance, etc. Like the steel of Daedalus, our very development, the very importance which we have attached to dental health, the very fact that we have preached dental health to the people until they are prepared to believe us, places us in the position where we are faced with possible great changes in our professional life, changes which will compel us to follow the sure road of a great destiny. The question is what change in our mode of life will our science demand in the post-war world.

I am not concerned now so much with what we as dentists may want our science to do for humanity as I am with the changes which have come about

which will make some alteration in the daily lives of at least some of us inevitable; changes which may mean the breaking with the old order of things and which may even cause some heart-burnings, if we are not fully prepared to give forceful leadership to this movement.

Sooner or later, no matter what government is in power, we will see changes in the organization of medical and dental practice. An effort will be made to bring the greatest benefit to all citizens, but in doing so the status of the dentist should not be lowered but rather his opportunities and working conditions should be greatly improved. He should have proper leisure for study and recreation as well as adequate remuneration and security.

The Canadian Dental Association has gone on record as being most anxious to cooperate with other members of the health professions in bringing about a better health service to the public. It has also gone on record as being concerned with giving the service to children only, in the first instance, due to lack of personnel, and it is with this phase of the problem that I wish to deal briefly.

If and when laws are passed arranging for the establishment of health insurance schemes in Canada, and if under such plans dentistry takes no part except in the care of children, there is a sense in which we will not be functioning under the arrangements at all, which may lead to dire consequences as far as advancing the status of our profession is concerned.

In a recent trip through our western provinces, I had special opportunities in Vancouver and Edmonton to study the relationship existing between medicine and dentistry and found the cooperation of the highest order. In both cities all oral fracture cases, for instance, are at once turned over to the dentist which is as it should be, a condition which exists in many other centres and should exist in all. It has taken some years to establish this good-will and now what is to be our attitude in this matter? Under a health insurance scheme is a man going to be able to obtain service for his fractured arm from the government medical officer but must he go to a dentist for his fractured mandible paying for the same on a fee basis? The answer is obvious; the medical officer will take care of the fracture. If a man has infected teeth to be extracted, must he go to his private dentist and pay for the service or will the medical doctor extract his teeth which practice is quite common in some parts of our country even now? All of this does not add up to the advantage of the dental profession. Due to lack of personnel, it will no doubt be necessary to limit the type of dental service to be rendered in any government service but to limit that service to children's work only, is going to lead dentistry into some real problems.

As has been stated many times, the first emphasis should be placed on prevention, on research, on education. In these fields there can be no argument. But limiting the government service to children only, may lead to consequences that may prove most regrettable. Our objectives may be high but they must be still higher.

To Daedalus, steel was more than a mere metal from which to fashion a

sword. It was the means of making men great. So it is with dental science, dental organization, dental education. They are the means of making us great if we can but direct our efforts along the proper channel.

M. H. G.

BOOK REVIEW

Fundamentals of Dental Histology and Embryology Including Clinical Applications by Charles F. Bodecker, D.D.S., F.A.C.D., Professor of Oral Histology and Embryology, School of Dental and Oral Surgery, Columbia University, New York. 87 illustrations. Published by Columbia University Press, New York. Price \$5.00 in U.S.A.

In recent years, ever increasing emphasis is being placed upon the biological aspect of dental practice. This book is written with the object of giving such knowledge that the dentist may be guided by biological principles. Information is conveyed chiefly by means of diagrams rather than by extensive text. The author believes that a painstaking sketch will leave a more lasting impression than an endless repetition of a worded description. Besides a discussion of the minute structure of the oral tissues, some references are given concerning the practical applica-

tion of histology to the clinical practice of dentistry.

This fourth edition includes many new illustrations, including a few three dimensional drawings in order to give this concept of the dental tissues. This enables one to visualize the relationship of the instruments used in different dental operations to the microscopic anatomy of the teeth and surrounding tissues.

Teeth are a part of a vital organism and so histology is of real practical value since without a knowledge of this subject, one can never understand pathology. It is of great importance to know the minute structure of the tissues we operate upon if we are to recognize cause and effect of the various conditions one observes in general practice.

This book is to be highly commended to all those who wish to practise dentistry upon the highest possible plane.—M.H.G.

Montreal Dental Club

Plans are now complete for the 20th Anniversary meeting of the Montreal Fall Clinic, which will be held in the Mount Royal Hotel on October 25, 26 and 27. The preliminary program will appear in the September issue of our Journal. Non-residents intending to attend the meeting are reminded of the necessity of making hotel reservation well in advance, and whenever possible, to share accommodation. For further information regarding the meeting, please communicate with the Chairman,

*M. L. Donigan, D.D.S.,
1414 Drummond Street,
Montreal, Canada.*



DENTAL CORPS NEWS

—Photo by Karsb, Ottawa.

COLONEL GEORGE LYNCH CAMERON, O.B.E., D.S.O., V.D. CANADIAN DENTAL CORPS

The King has been graciously pleased, on the occasion of the celebration of His Majesty's birthday, to give orders for the appointment of Colonel George Lynch Cameron, D.S.O., V.D., to be an Officer of the Military Division of the Most Excellent Order of the British Empire.

This signal honour to the Deputy Director-General of Dental Services was greeted with widespread enthusiasm and approval by the members of the Dental Profession of Canada, both military and civilian.

Colonel Cameron has a long and meritorious record of service to the Profession, the Army and, his home province, Saskatchewan, where he served in Municipal, Educational and Fraternal circles for many years in Swift Current.

He is a Past President of the Canadian Dental Association and an honorary member of the British Dental Association. As a combatant officer in World War I, he was awarded the Distinguished Service Order in 1918.

SUPPLEMENTARY LIST CANADIAN DENTAL CORPS OFFICERS AS OF JULY 5, 1944

RETIREMENTS

Rank, Name and Date	Civilian Address
Capt. R. Baribeau, 2-5-44.....	Montreal, Que.
Capt. J. A. Ross, 7-5-44.....	Lindsay, Ont.

Capt. W. M. MacKay, 25-5-44.....	Sault Ste. Marie, Ont.
Capt. E. Sklar, 7-5-44.....	St. James, Man.
Capt. J. L. Lunay, 20-5-44.....	Penticton, B.C.
Capt. T. K. Cragg, 10-5-44.....	New Westminster, B.C.
Capt. R. W. Sawyer, 8-5-44.....	Nassau, Bahamas

CANADIAN DENTAL ASSOCIATION NEWS

(FROM THE SECRETARY'S OFFICE, JULY 8)

D. P. and N. H. Fee Schedule

A meeting of the Executive Committee, has been called to meet in Ottawa on July 17 with representatives of the Government, upon this schedule. It is hoped that a more satisfactory arrangement may be the outcome of the meeting.

In the event that forms are presented to dentists on which the diagnosis and fees allowed are unsatisfactory, request is made by the Department that a new diagnosis be made together with a statement respecting a satisfactory fee for the necessary services. This new diagnosis and estimate should be submitted to the Chief, Division of Dental Services, Department of Pensions and National Health before any services are rendered. The Department expresses willingness to make necessary and reasonable adjustments.

Pamphlet "The Dental Profession in Canada and Health Insurance"

A generous surplus of this pamphlet was ordered at the time of publication but the unprecedented demand was not anticipated. Requests for copies have been received on a world-wide basis. Many have requested a dozen or more copies to provide for the membership of committees. In such cases we have reduced the number sent, to one or two. However the requests continue and this office now has less than 25 copies left, which we think should be retained for our records.

We are of the opinion that some possess two or three copies of the pamphlet. If you would mail in any surplus copies this office would be enabled to supply future requests to the extent of the number received.

Department of National Health and Welfare

A reorganization of departments of the Federal Government is taking place. The Department of Pensions and National Health will

disappear and be replaced by three departments; namely, Department of Reconstruction, Department of Veterans' Affairs and Department of National Health and Welfare.

Dentistry should have better representation in this reorganized Department than has been the case in the past.

Orthodontics and National Health Insurance Plan

The Orthodontic Club of Toronto has given study to the problem of Orthodontics under a National Health Insurance Plan and have now submitted to the Association the following preliminary statement:

To the Canadian Dental Association.

The Orthodontic Club of Toronto respectfully submits the following:

"We are in accord with the principles for Dental Health Services, as adopted by the Canadian Dental Association, as of May 18, 1942. We believe that the health in general and the dental health in particular, of the people of Canada can be improved.

"We are willing to demonstrate the procedures by which we can best contribute towards that aim.

"Of first importance would be the education of the public, in preventive measures, which may assist in the attainment of normal dento-facial growth and development.

"We would also be willing to act in an advisory or consultative capacity with dentists and physicians regarding the prevention and correction of dento-facial anomalies."

Statements re Health Insurance

The Social Security Committee has now been sitting for some months in camera debating the proposed bill. From available information only one minor change has been made in the dental benefit section whereby at the end of section (4) of the said section the words "and be subject to a penalty as prescribed for non-attendance" were deleted.

NEWS FROM THE PROVINCES

BRITISH COLUMBIA

Vancouver Dental Society

The last meeting of the Society for the season was held in the Hotel Vancouver, on May 2.

At this time, installation of officers for the new season took place, these officers being:

President, N. H. Scott; President-Elect, J. A. Chambers; Secretary-Treasurer, K. R. McWilliams; Board of Censors, J. Ingledew, C. Whitworth, G. A. C. Walley, E. Nordin.

The guest speaker for the evening was Dr. Wm. Newton, Plant Pathologist at the Dominion Government Experimental Station, Sidney, B.C. His subject was "The Adoption of the Military Tactics and Weapons of Micro-Organisms in the Battle for Life."

"Nature is continually fighting to preserve a balance of power, the battle continually swaying backwards and forwards between different classes of organisms. When man interferes without knowledge of nature's military tactics profound disturbances of the balance of power are likely to occur."

Penicillin is the weapon of the green mould. In 1929 Fleming at Oxford, observing that a mould contaminant prevented the development of staphylococci, persisted in his studies and succeeded in isolating the weapon now named penicillin.

Some of the properties of Penicillin:

- (1) It will supplement but not take the place of the sulpha drugs.
- (2) In test tubes it has proven to be over 1000 times more lethal to pneumococci.
- (3) Tissue tolerates it better.
- (4) The form of organism resistant to sulpha drugs is not to penicillin.

Dr. Newton also discussed gramicidin, tyrocidin, citrinin, streptothricin.

"Gramicidin is a weapon of a soil organism. The organism was discovered by capitalizing upon the principle that soil organisms will not allow any bacteria or organic substance to become too abundant. At the Rockefeller Institute, cultures of the pneumonia producing organism were stirred into a flask of rich soil every day for a period of two years. A race of soil organisms gradually developed in that flask of soil that would rapidly kill and destroy the *pneumococci*. This soil organism was isolated and grown separately in flasks, and from

it was isolated by extraction a potent lethal agent against the disease producing organism. The toxin appears to be more injurious to mammalian tissue than penicillin but already research has shown that it has important clinical possibilities."

Dr. Newton in discussing the effect of the flora of the mouth on diet, said:

"Ample proof has been obtained that the vitamins and minerals are important in the preservation of teeth. The effect is two fold. First, the favourable balance of vitamins, lime, phosphate and traces of iodine, fluorine, etc., increases body resistance and there is little doubt that certain natural foods check the organisms responsible for tooth decay by encouraging anti-decay organisms in the mouth that are non-toxic to gum or tooth tissue. Considerable time is likely to elapse before scientists can establish a proper balance of vitamins and minerals in the form of pills. Fresh foods and meats grown on soils that are high in lime and phosphate containing traces of fluorine, iodine, and many other essential substances, are at present the only method of preserving a natural equilibrium within our bodies. Sterile mouths and intestines are unknown, hence, if we do not assist nature to preserve a normal equilibrium of organisms within our bodies, trouble may be expected."

The question period at the end of Dr. Newton's talk was very extensive and brought out many interesting points.

•

B.C. Dental Convention

The 1944 Convention of the British Columbia Dental Association was held in the Hotel Vancouver, on May 13. The President, Dr. G. D. Stibbs presided at the sessions. The Registration was the largest that the Association has ever had for a meeting of this type. The meeting commenced at 7:45 a.m. with breakfast, at which time guest clinicians and lecturers were introduced.

Jack Werner, D.D.S., F.A.C.D., Professor of Prosthetic Dentistry, College of Physicians and Surgeons, San Francisco, was the principal guest clinician. His subject, "Full Denture Prosthesis" was well rendered and held the close attention of the membership.

Other visiting clinicians were, Dr. John Kuratli, "The Use of Hydrocolloid Impres-

sions in Inlay Crown and Bridge Construction"; Dr. F. C. Pearn, "Dental Medicines Used in the Practise of Dentistry"; Dr. Mark Abernethy, "Efforts that Justify the Use of Amalgam"; Dr. Ralph W. Johnson, "Class Five Acrylic Inlays"; Dr. Howard I. Gilbert, "Construction of the Three-Quarter Crown"; Dr. O. A. Anderson, "Rubber Dam and Silver Nitrate Technique", also, "Porcelain Jacket Crown Preparation"; Dr. C. F. Lindley, "Electro Formation of Copper Dies"; Dr. W. H. Hagen, "Porcelain Techniques"; Dr. A. W. Jeffrey, "Class 3, Gold Foil".

Canadian Dental Corps Clinicians were Major J. A. Ludwig, Capt. I. E. Snider and Capt. F. P. Mellan.

B.C. Members on the Program were Dr. A. J. Garesche, "Improved Method of Applying Matrix Band"; Dr. W. M. C. Kynoch, "Making of Anaesthetic Solutions"; Dr. S. F. Miles, "Silicate Cements"; Dr. V. D. Wescott, "Orthodontia"; Dr. R. H. Colbourne, "Class 5, Gold Foil"; Dr. W. K. Sproule, "Gold Inlay, Cavity Preparation and Wax Pattern"; Dr. W. D. MacLeod, "Surgery".

There were table clinics by both the Victoria and Vancouver Dental Assistants Associations.

The planning and arranging of the program was accomplished by committees headed by Dr. H. M. Cline and Dr. D. J. Sutherland.

At the business meeting of the Association, the following were elected as officers for the ensuing year:

President, Dr. Arthur Poyntz; President-Elect, Dr. George C. Darts; Secretary, Dr. J. A. Mercer; Treasurer, Dr. R. L. Pallen; Board of Censors, Dr. Norman H. Scott, Dr. L. G. Robinson, Dr. A. Johns.

Dr. W. D. MacLeod was appointed to represent the Association on the honourary attending staff to B.C. Cancer Clinic.

At the Banquet held at 6:30 p.m. in the Mayfair Room, Dr. R. A. Rooney of Edmonton, Alta., President of the Canadian Dental Association, spoke on "National Dental Affairs".

GOLF

Report of Dr. R. J. Stewart, Chairman of this Committee.

The Annual Golf Tournament of the B.C. Dental Association and the Vancouver Dental Society was held on May 14 at the Point Grey Golf Club.

The weather man was exceptionally kind to

us as we had a beautiful day. Dinner was served at 4 o'clock in the afternoon after which prizes were distributed to the following winners:

Low Gross: Dr. D. Seale, winner of the Ash Trophy. Presented by Mr. E. Rogers.

Runner-up, Low Gross: Dr. S. McQueen, winner of the Leach Trophy.

2nd Runner-up, Low Gross: Dr. A. Poyntz.

Low Net: Dr. S. McQueen, B.C. Dental Association Trophy.

Runner-up, Low Net: Dr. Wm. MacLeod, winner of the B.C. Dental Trophy. Presented by Mr. A. E. Sinclair.

2nd Runner-up, Low Net: Dr. V. Wescott.

Special Prize: Dr. M. Hanna. Drawn from hat.

ALBERTA:

Alberta Dentists Elect Officers

At the annual meeting of the Alberta Dental Association held in Calgary the middle of June, the following officers were elected:

President, Dr. R. R. McIntyre, Calgary; Vice-President, Dr. W. F. Keith, Bassano; Secretary - Treasurer - Registrar, Dr. R. A. Rooney, Edmonton; Members of the Board of Directors, Dr. H. R. MacLean, Edmonton; Dr. H. L. Freeland, Calgary; Captain C. D. Husband, Red Deer; Dr. Leslie T. Allen, Lethbridge.

To assist men returning to dental practice from Canadian army service, a re-establishment committee was appointed.

Make Dentistry Varsity Faculty

On July 10, the School of Dentistry of the University of Alberta was raised to the status of a faculty by the Board of Governors. Dr. W. Scott Hamilton, director of the school, was made Dean of Dentistry.

The Board's action is a "further indication of its intention to develop the School of Dentistry as rapidly as possible. New and adequate accommodation for the school is included in the early post-war building plans of the University, and meanwhile the Board hopes to improve the equipment of the present temporary quarters."

New Dental School

Without doubt the growing consciousness of the importance of dental health, will short-

ly produce a demand for much more dental service than the present number of dentists in Canada will be able to meet.

For this reason the annual report to the Alberta Dental Association of Dr. W. S. Hamilton, Director of the Dental School of the University of Alberta, is of major importance. The number of dental graduates and their quality is a determining factor in the position which dentistry is to assume in the future as an important part of the health services to the people of Canada.

One interesting and important part of the report deals with the possibility of the building of a new dental school at Edmonton. There is no question as to the need. An estimate of a minimum of \$400,000.00 for a building and \$200,000.00 for equipment, has been made, and apparently the President and the Board of Governors of the University realize the urgent necessity of a suitable building with modern equipment. Given adequate facilities, the dental department will attract good students, and graduate men who will maintain the standard of dental service in Western Canada.

Recognition of the need by the Provincial Government and the financing of the project, are both necessary before the proposed school can become a reality. It is becoming increasingly apparent that the present unsatisfactory condition cannot continue.

The two senior classes will continue on accelerated courses, one graduating at the end of this year, and one in August 1945. The first and second years will not begin until September and will continue on the basis of the regular university session.

Edmonton Dental Society

Twenty-five Edmonton dentists turned out on July 13 for their second monthly golf meet of the season. Following golf, dinner was served in the club house, followed by a social hour with Dr. C. Lipsey presiding. Dr. P. J. Kendal had charge of arrangements.

It is with deep regret we announce the loss in action in Normandy of Pte. Bob Bradley, eldest son of Major R. W. Bradley, C.D.C., who has been in Scotland since the beginning of the war. Bob was raised in Edmonton where his father has practised since graduation.

He joined the C.D.C. but later transferred to the infantry and took part in the invasion.

SASKATCHEWAN

Mrs. Harwood Honoured

Mrs. F. C. Harwood, of Moose Jaw, wife of the Saskatchewan editor of this Journal, has been granted a fellowship in the Royal Society of Arts in England. She is the third Canadian woman to be so honoured.

Mrs. Harwood studied art in Victoria, Chicago and Minneapolis and her pictures have been exhibited by request at Toronto, Winnipeg and Calgary, and frequently at the Women's Art Association in Regina.

The Royal Society of Arts was founded in 1754 and granted a Royal Charter by Queen Victoria in 1847.—From Moose Jaw Times-Herald.

ONTARIO:

Dr. G. H. Campbell Honoured

During the recent sessions of the Dominion Dental Council Charlottetown, P.E.I., Dr. G. H. Campbell was elected President of the Council. Dr. Campbell merits this distinction because of his long experience as a leader in the profession. At the present time he is president of the Board of the Royal College of Dental Surgeons of Ontario, and is an Ontario delegate on the Board of the Canadian Dental Association. He is an outstanding example of a colleague devoted to the furtherance of dental science, who is keenly interested in every project for professional advancement and usefulness. Congratulations Dr. Campbell.

Dental Public Health Council of Ontario

Members of this Council held their third annual meeting on May 29. The meeting was unique. It was held on the first morning of the Ontario Dental Association Convention and took the form of a breakfast meeting called for 8.15 a.m. The following members indicated their interest in dental public health by their presence:

Doctors W. J. Tackaberry, Owen Sound; E. Babcock, Milton; G. H. Campbell, Orangeville; G. A. Sinclair, Welland; W. S. Bradley, Ottawa; C. B. Taylor, St. Thomas; G. C. Hind, Walkerton; F. J. Furlong, Windsor; Alex. Gamero, Edmonton; J. E. Middleton, Peterborough; L. L. Crowley, Windsor; S. J. Phillips, Oshawa; F. L. Williamson, Hamilton; J. C. Devitt, Bowmanville; J. M. Wilson,

Trenton; J. H. Moyle, Brantford; N. Doner, Kirkland Lake; J. A. Marshall, Belleville; C. H. May, Niagara Falls; D. E. Shultis, Hamilton; M. L. Stitt, Fort William; M. V. Keenan, Sudbury; R. H. Ferguson, Kitchener; L. H. McCool, North Bay; L. J. Fenech, Windsor; L. McKerracher, Arnprior.

And the following from Toronto were also present:

Doctors E. A. White; J. H. Duff; D. W. Gullett; H. J. Hodgins; A. D. Mason, Dean, Faculty of Dentistry; H. S. Thomson; M. A. Ross Thomas; G. V. Fisk; T. R. Marshall; F. Martin; A. W. Ellis; S. L. Honey; P. W. Arkle; R. P. Lowery; R. J. Montgomery; R. G. Ellis; A. E. Higgins; O. J. Yule; H. A. Swales; S. A. MacGregor; and Mr. Bob Marshall.

Those in charge of arrangements were Dr. R. P. Lowery, Dr. A. E. Higgins and Dr. T. R. Marshall. The program consisted of six short addresses as follows:

Dr. Don W. Gullett, Toronto—"Where are we going and why?"

Dr. L. L. Crowley, Windsor—"The organization of a Community Dental Health Day".

Dr. Stanley Phillips—"The private Dentist in Dental Public Health".

Dr. W. J. Tackaberry, Owen Sound—"The promotion of Dental Public Health".

Dr. R. H. Ferguson, Kitchener—"The preparation of a Dental Health Report for a Board of Health".

Dr. R. P. Lowery—"Why I am interested in Dental Public Health".

Some of the significant features of the meeting were:—the apparent enthusiasm and sincerity of each speaker; the keen interest of those present in the discussion presented; and the number of communities in Ontario represented.

The policy of the Dental Public Health Committee of the Ontario Dental Association has been to help community dental groups or individual dentists who are trying to extend dental health education and service in their own district. In this way it is possible to have a common goal to work towards and a central source of information. This Dental Public Health Committee acts as an executive to the Council whose members are distributed to all centres in Ontario who desire to be represented; e.g., every dental society in Ontario is invited to appoint a representative

member to the Ontario Council on Dental Public Health. And it is through these representatives that the executive committee works in promoting Dental Public Health.

The annual meeting is held each year during the Ontario Dental Association convention and a program of discussion arranged to encourage more dentists in Dental Public Health activity. The success in promoting better dental health depends more on the dentists practising in each community than on a small central committee but their effectiveness is improved by centralized assistance.

The new officers of the Council are: President, Dr. J. E. Middleton, Peterborough; Vice-President, Dr. R. P. Lowery, Toronto; and Dr. T. R. Marshall, Toronto, Secretary.

Faculty of Dentistry University of Toronto

At a recent meeting of the Faculty Council, Dean Mason announced the appointment of a committee to make a study of post graduate instruction given in American dental schools. Dr. R. G. Ellis (chairman), Dr. R. J. Godfrey, and Dr. J. H. Johnson are the committee chosen. The Board of the Royal College of Dental Surgeons are assuming the expense of the undertaking.

Dr. R. P. Vivian Announces Appointment

Under the Municipal Health Services Act of Ontario, Dr. D. W. Gullett has been appointed to the municipal health services board. In connection with the appointment of the personnel of this board the Toronto Star reports as follows:

"The board was chosen from a panel of names submitted by labor organizations, federation of agriculture, women's organizations, municipalities, the medical and allied professions, with representatives of the provincial department of health. It will speak for both those giving and those receiving medical services.

"Duties of the board are to draw up the necessary regulations, which will deal with the establishment of a medical service within a community, and to empower a municipality, or group of municipalities, to form a unit under their own bylaws to participate in this service. This board will act as the agency for receiving money from the local community

and for paying for the services rendered. This money will come from funds raised by taxation in the local community together with a provincial contribution. The board will also

act in supervising the administration of this plan, in which it will be assisted by a local committee in each municipality concerned," Dr. Vivian said.

EMPIRE NEWS

GREAT BRITAIN

Free University Education

Entrance into the learned professions has always been more or less restricted by reason of the cost of the curricula—and the dental profession has in past suffered more, perhaps, than other professions from this cause since there have been fewer scholarships available for dental students than for those in other departments. The remedy generally prescribed is an increase in the number of scholarships and the provision of maintenance grants. The Planning Committee of the Royal College of Physicians of London, in an interesting report on Medical Education, puts forward the more radical proposal that all university fees should be abolished and that maintenance grants should be paid to students when necessary. At first glance this proposal sounds revolutionary but, as the British Medical Journal points out, medical students' fees at the present time only pay about a third of the cost of their education. Whether or not so far-reaching a proposal is likely to be adopted in the near future it is clear that it is undesirable in the public interest that any candidate for the dental

profession, who is otherwise suitable, should be debarred from entering it by financial considerations.

Wear of Acrylic Teeth

An interesting experiment to determine the rate of wear of acrylic teeth is reported in British Plastics for April. The tooth selected for trial was a molar tooth on a partial lower denture, the denture carrying occlusal rests to prevent it from "giving" under biting stresses. The acrylic molar was opposed by a natural upper molar. The amount of wear was calculated from the reduction in depth of a trench 3/16 in. long and about 1/32 in. wide, which had been cut in the working face of the acrylic molar, it being assumed that no wear would take place at the bottom of the trench. The depth of the trench was measured on a petrological microscope fitted with a fine-adjustment device. It was found that the depth of the trench had been reduced by only 1.5 thousandths of an inch after the experiment had lasted for one hundred days, the denture having been worn regularly for three meals per day.

GENERAL NEWS

Grants of the National Foundation for Infantile Paralysis

Grants amounting to \$1,128,770 were made by the medical advisory committee at the semi-annual meeting on May 15 and 16 of the National Foundation for Infantile Paralysis, to leading universities, laboratories and other organizations throughout the United States. The appropriations included \$536,500 in the field of after effects; \$392,400 in the field of virus research and \$199,870 in the field of education.—*Science*.

One Hundred Years of Progress

The year 1944 marks the beginning of the second century of progress for Samuel H. French & Company as plaster manufacturers.

Almost from the very start they specialized in manufacturing plaster of Paris that would meet the exacting requirements of the dental and surgical professions.

At the present time the Army and Navy are the largest customers, taking thousands of tons of dental and orthopedic plasters, these being shipped to the four corners of the earth to be used in the care of the wounded and sick.

Dentist Named President of University

To a dentist of Costa Rica goes the honour of being the first member of his profession to be named president of a university in one of the American republics. Doctor José Joaquín Jiménez Nunez, 68, a distinguished dentist of San José, was elected recently by the

Directors of the National University of Costa Rica to occupy this high position.—*Oral Hygiene*.

Bill To Create Separate Dental Department in U.S.A. Navy Passes House Committee by 23 to 2 Vote

A bill to provide a separate dental department in the United States Navy was approved by the House Naval Affairs Committee June 23 by a vote of 23 to 2. This vote came after testimony by officials of the American Dental Association and other dental organizations and in the face of bitter opposition to the bill by high naval authorities.—*Jour of A.D.A.*

Sugar Research Foundation Finance Dental Studies

The Sugar Research Foundation has announced five grants totaling \$104,100.00 for studies on various phases of sugar research. Included in the project are two for the study of dental caries. One for \$21,500.00 has been given to Dr. Julian D. Boyd, Associate

Professor of Pediatrics, State University of Iowa College of Medicine, for study on dental caries in children. Another amounting to \$25,000.00 has been awarded to Dr. Frederick J. Stare, Assistant Professor of Nutrition, Harvard Medical School, and Alfred L. Jonson, Dean of the School of Dental Medicine at Harvard University, for dental caries study using experimental animals.—*F. Review Chi. D. Soc.*

What About 4% Procaine, 1 ½ % Monocaine and Novocain-Pontocaine with Cofebfrin?

These solutions are more concentrated, more potent and more toxic than the accepted 2% Procaine and 1% Monocaine solutions.

The more concentrated solutions have not been shown to have a sufficiently broad legitimate application in dentistry to justify their availability in ready-prepared form.

In the relatively rare instances when a more concentrated solution is needed, it may be prepared from tablets at the chair.—*Council on Dental Therapeutics of the A.D.A.*

IN MEMORIAM

Gordon Ross Hennigar, of Halifax, Nova Scotia, aged 58, died June 18. He was graduated from the Baltimore College of Dental Surgery in 1913 and following post graduate work at the University of Maryland, he started in practice at Nelson, B.C. He moved to Halifax in 1915 and the following year was appointed Professor of Exodontia and Radiology at the Dalhousie Dental School, a post which he held until his death. He was a member of the staff of Victoria General hospital, a member of the Canadian Dental Association, and past president of the Nova Scotia Dental Association and the Halifax Dental Society. He served as chairman of the Oral Hygiene Committee of the Nova Scotia Dental Association, and at one time, as secretary of the Nova Scotia Dental Board.

He was a member of the Virgin Lodge, of the Ancient and Accepted Scottish Rite of Free Masonry, of the Keith Chapter Rosé Croix, and of the Royal Order of Scotland. He was a member of International Rotary and engaged actively in the work of the First Baptist church.

Dr. Hennigar is survived by his widow,

one son who is attending the Dalhousie Medical School, three sisters and three brothers.

Lieutenant Colonel C. W. Steele of Vancouver, British Columbia, Command Dental Officer of the Western Air Command, Canadian Dental Corps, was one of six airmen killed when a Royal Canadian Air Force transport plane crashed while taking off from a west coast station, July 18.

In April, 1916, he enlisted in the 67th Battery, C.F.A. and served in England and France until October, 1918. In 1921 he was graduated from the Royal College of Dental Surgeons of Ontario.

In 1934, he was commissioned in the Weyburn Regiment as Paymaster. In September, 1939, he joined the C.A.S.F. as Paymaster, South Saskatchewan Regiment, when the unit was mobilized for active service. He was transferred to Number 12 Company, C.D.C., October, 1939. He was appointed Adjutant, April, 1940 and in June of that year became Command Dental Officer, Number 2 Training Command, R.C.A.F., with Headquarters in Winnipeg, Manitoba.

Later he was transferred to the west coast position.

He practised in Lethbridge, Alberta, 1921-1922 and in Weyburn, Saskatchewan, 1922-39. He was a member of the United Church and his hobbies were gardening, hunting and curling.

Lieutenant Colonel Steele is survived by his widow and one son.

Albert E. McCordick, of Ottawa, Ontario, aged 77, died July 16. He was graduated from the R.C.D.S. of Ontario in 1894 and commenced practice at North Gower. Thirteen years later he moved to Ottawa entering into partnership with Dr. J. R. Hand, which partnership lasted until Dr. McCordick's retirement in 1942, due to ill health.

He was past president of the Plomb Lake Fishing Club, a member of Builders Lodge, A.F. and A.M., the Rameses Shrine of Toronto, a former honorary president of the Rideau Aquatic Club, and, in his younger days, a member of several bowling and curling clubs. He was actively associated with St. James' United church, being a member of the Committee of Stewards, the Session Board, the Board of Trustees and Chairman of the usher and pew stewards for the past 25 years.

Dr. McCordick is survived by his widow, one son and two daughters.

Arthur C. Burnet, of Burlington, Ontario, died suddenly at St. Joseph's Hospital on July 14. He was graduated from the R.C.D.S. of Ontario in 1900 and practised in Hamilton for forty-two years.

He was a member of Trinity United Church, Burlington, of which he was an elder and he was also a member of Burlington Masonic Lodge and Burlington Bowling Club. He took an active interest in public and civic affairs in the town, of which he was a worthy citizen.

Dr. Burnet is survived, by his widow, one son, two daughters, one brother and three sisters.

Matthew Corrigan, of Strathroy, Ontario, aged 72, died June 21, following a lengthy illness. He was graduated from the Royal College of Dental Surgeons of Ontario in

1903 and since then has practised in Strathroy. For the past thirty-three years, Dr. Corrigan has been chairman of the Strathroy high school board.

Dr. Cameron Corrigan, head of the hospital at Norway House, Manitoba, is a son.

Owen John Tansey of Montreal, Quebec, aged 69, died June 24. He was graduated from the Dental Faculty of the University of Bishop's College in 1901. He was active in dental practice until stricken about five months ago. He was well known for his philanthropic work at the Sacred Heart Hospital and the Grace Dart Home Hospital.

He had been an active member of St. Augustine Church, the Holy Name Society, the College of Dental Surgeons, the Knights of Columbus, and the Catholic Laymen's Retreat Association.

In his younger days, he took an active part in lacrosse, boxing, and soccer. At one time he was an honorary boxing judge, and was associated with the Quebec Athletic Association.

Dr. Tansey is survived by his widow, a son and two brothers.

Robert Holt, of Lloydminster, Saskatchewan, aged 70, died June 23. He was graduated from the Chicago College of Dental Surgery and began his practice in Butte, Mont. In 1902 he moved to Medicine Hat, and in 1906 moved to the Lloydminster District, where he continued in practice until 1930. Since then he has resided on his farm in the Landrose District and practised his profession intermittently in points north until a short time prior to his death.

During his early years, Dr. Holt was an outstanding football and lacrosse player, also well known as a curler of repute and had many cups and medals in recognition of his ability in sports.

Samuel Schacter, of Montreal, Quebec, died June 29, following a lengthy illness. He was graduated from McGill University and later studied at Northwestern University in Chicago.

Dr. Schacter is survived by his widow, three sisters and two brothers.

... SECTION FRANÇAISE ...

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenant, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Venne, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAUDEAU, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

Pathologie générale et stomatologie

Par le DOCTEUR R. SERVAIS,*

INTRODUCTION

Ce travail est le résumé de l'admirable ouvrage d'un maître de la stomatologie française, le docteur Rousseau-Decelle. J'ai respecté l'ordre choisi par l'auteur, m'appliquant à schématiser tout ce qui, "pratiquement", pourrait être utile à ceux qui ne sont pas stomatologistes. Je n'ai rien entrepris avant de posséder l'autorisation de l'auteur, qui me l'a, du reste, donnée en les termes les plus charmants; il ajoute que "Il y a toute intérêt à ce que les rapports de la pathologie générale avec la pathologie bucco-dentaire soient diffusés le plus possible chez les médecins praticiens qui sont assez peu au courant de notre spécialité". Cette acceptation si compréhensive m'honore infiniment; sans compter que je ne pouvais vraiment espérer mieux que l'appui du Stomatologiste de Lariboisière (1).

En dehors des ouvrages destinés aux stomatologistes, il n'y a rien dans la littérature médicale qui soit comparable à ce traité des Docteurs Rousseau-Decelle et Raison. La première partie de cet ouvrage magistral concerne la pathologie buccale proprement dite; la seconde partie s'intitule: Pathologie générale et Stomatologie". Je me suis évidemment limité à cette dernière.

Je désire et souhaite que ce "guide stomatologique" soit utile, trop heureux si quelquefois mes confrères le consultent au cours de leur pratique médicale. D'autre part, les considérations intéressantes, qui ne sont pas tirées de l'ouvrage qui fait

(*) Revue Belge de Stomatologie 34me année No. 2.

(1) Tome I de la "Pratique stomatologique", publiée sous la direction du Docteur CHOMPRET. Ce tome I est intitulé: Pathologie buccale, péri-buccale et d'origine buccale. Auteurs les docteurs ROUSSEAU-DECHELLE et RAISON. Edition Masson.

l'objet de cet article, figureront en note, au bas de la page. Ceci afin de ne rien changer à la conception générale de l'auteur.

Si, d'autre part, ce modeste compte rendu peut aussi contribuer à hausser le niveau de considération envers la stomatologie en tant que "spécialité médicale", je m'estimerai doublement récompensé et aurai la légitime satisfaction d'avoir combattu pour la bonne cause.

Je m'en voudrais de ne pas adresser publiquement mes vifs remerciements, non seulement au docteur Rousseau-Decelle qui m'a témoigné tant de bienveillance, mais encore au Professeur Fauconnier qui m'a apporté les encouragements les plus précieux.

La bouche est la porte d'entrée idéale pour les infections.

La défense buccale: 1° Pouvoir de régénération extrêmement rapide des tissus. 2° Chimiotactisme positif de la salive (qui n'est pas bactéricide). 3° Grand cercle lymphatique de Waldeyer.

La défense buccale peut fléchir: les malformations "anatomiques" (cloison du nez, cornets) ou "pathologiques" (polypes, végétations) entravent la respiration nasale, d'où respiration "uniquement buccale".

Résultat: dessèchement de la bouche et grosse diminution de la salive, défense fortement réduite.

La bouche porte d'entrée principale, voire exclusive

C'est le cas de presque toutes les *fièvres éruptives*, où les signes initiaux apparaissent dans la bouche ou autour d'elle.

(a) SCARLATINE.—Angine, énanthème, contagiosité de la salive à la période pré-éruptive. Les squames ne seraient contagieuses que si elles sont souillées de mucus buccal.

(b) ROUGEOLE.—Catarrhe oculo-nasal et souvent pharyngolaryngé; fréquemment stomatite érythémato-pultacée; taches de Köplick; contagiosité de la salive (Monro et Looke au 18^e siècle). Adénopathie sous-maxillaire de règle.

(c) RUBEOLE.—Erythème pharyngé, érythème du voile et des piliers, adénopathie sous-maxillaire puis occipitale et cervicale. (Forschheimer a décrit un énanthème du voile.)

(d) VARICELLE.—Enanthème, parfois même vésicules intrabuccales; et enfin, stomatite varicelleuse de Comby.

(e) VARIOLE.—Dès le frisson initial, la langue est sèche et écarlate. L'éruption débute toujours au pourtour des lèvres.

En plus de ces fièvres éruptives, citons encore:

(f) OREILLONS.—L'agent pathogène (virus filtrant ou Spirochète de Kermorant) se trouve dans la salive 24 heures au moins, parfois 2 ou 3 jours, avant la tuméfaction des parotides. Il est alors déjà contagieux.

(g) DIPHTHERIE.—La bacille de Loeffler est fréquemment saprophyte buccal et l'affection débute presque toujours par une angine.

(h) RHUMATISME ARTICULAIRE AIGU.—La voie d'entrée buccale paraît probable. Le début se fait au pharynx et va jusqu'à l'angine avec parfois *crise de polyarthrite alvéolo-dentaire diffuse* (1902: Menzer de Berlin a défendu la théorie amygdalienne; plus récemment, Rosenow a proposé la théorie de la "Focal Infection". Voir plus loin).

(i) MENINGITE CEREBRO-SPINALE.—Débute par coryza ou "stomatite" et le méningocoque pullule dans le pharynx et les amygdales.

(j) POLYOMYELITIS AIGUE.—Le virus a son siège constant au pharynx et aux amygdales.

(k) ENCEPHALITE LETHARGIQUE.—Le virus se trouve dans la salive, même celle de sujets sains qui ont été en contact avec des infectés.

(l) ACTINOMYCOSE.—Tout le monde semble d'accord à ce sujet (1).

*La bouche est voie de passage, mais peut subir
secondairement l'effraction microbienne*

Exemples.—La *typhoïde* et la *paratyphoïde*, qui sont susceptibles de pénétrer par un point quelconque de l'organisme; dans la *typhoïde*, nous constatons souvent une angine de début.

TUBERCULOSE.—Actuellement les faveurs vont à la "voie d'entrée buccale". B.K., saprophyte buccal, est capable de traverser une muqueuse saine, à plus forte raison, une muqueuse enflammée (Burnet: Tuberculose du petit "touche-à-tout", lors des éruptions dentaires). Expérimentalement: (a) Cornet et Odenthal: trépanation de dents saines d'animaux et scellement de B.K. dans ces dents; on obtient une tuberculose ganglionnaire du même côté en cinq semaines. (b) Mendel: trépaner des dents saines de singes et inoculer la pulpe de B.K.; les bêtes succombent de granulie de quelques semaines. (2)

Remarque.—Ces inoculations "massives" ne se rencontrent pas en clinique, mais elles démontrent en tout cas la "réalité" de la "voie de pénétration" dans l'organisme.

La bouche est voie d'entrée accidentelle

La pénétration peut se faire par plusieurs portes, dont une est la bouche.

Exemples.—Syphilis, tétanos (inoculation buccale accidentelle ou instrumentale), érysipèle (entrée exceptionnellement buccale), sporotrichose (saprophyte buccal).

Influence des maladies infectieuses sur l'état buccal

1° DANS LES MALADIES INFECTIEUSES AIGUES.—Influence réelle car, d'abord, la bouche est une voie d'entrée: d'où production de lésions "primitives". Ou bien, à la faveur de la dépression générale, il y a pullulation des microbes buccaux: d'où production d'infections "mixtes" associées ou secondaires dues au microbe de sortie de la maladie.

Exemple.—La *scarlatine*: Nous y trouvons des lésions dues au virus scarlatineux —angine initiale, aspect spécial de la muqueuse buccale et linguale. Mais nous pouvons trouver des lésions de "complication": soit une angine ulcéro-nécrotique ou pseudo-membraneuse, soit exagération de la virulence du strepto par les virus scarlatineux (le strepto, vrai germe de sortie de la maladie, est l'hôte habituel de la bouche), d'où complications bucco-pharyngées et érosions de la muqueuse; il en résulte une pénétration du strepto dans le sang ou les lymphatiques, qui va donner des troubles à distance (bubons, arthralgies, arthrites suppurées, lésions broncho-pulmonaires, et cardio-vasculaires, etc.).

(1) *Actinomycoze*: Docteur DECHAUME, *Bruxelles-Médical*, 1933: Cette affection ne serait pas particulière aux campagnards et devrait son origine à certains champignons des pulpes dentaires. Dans certains cas, donc, origine végétale; mais, la plupart du temps, l'agent pathogène serait un saprophyte buccal, pénétrant dans les tissus par effraction traumatique ou inflammatoire de la muqueuse.

(2) Adénites cervicales tuberculeuses et caries dentaires: Docteur J. VEYRASSAT, professeur à la polyclinique de chirurgie et de chirurgie opératoire de l'Université de Genève, 1933: 40 à 80% des ganglions tuberculeux sont d'origine dentaire, notamment au-delà de 25 ans, parce que ce sont les dents définitives qui sont en cause; pour les enfants porteurs de dents de lait, il y a d'autres causes: végétations, amygdales, nasopharynx.

Les conclusions thérapeutiques de l'auteur: dans la prophylaxie de la tuberculose, il faut traiter les lésions dentaires et gingivales.

Docteur FAUCONNIER, professeur à la clinique de stomatologie de l'Université de Liège: Cours de pathologie buccale, chapitre des adénites: Il y a pénétration du BK dans les dents cariées et l'épithélium buccal. De plus, les lésions buccales entretiennent les adénites, qu'elles soient tuberculeuses ou non.

2° DANS LES MALADIES INFECTIEUSES CHRONIQUES.—Le facteur le plus important est l'*irritation locale*. Ainsi, dans la *syphilis*, les manifestations buccales sont généralement discrètes. Mais s'il y a irritation (alcool, tabac, lésions dentaires) on peut avoir des signes beaucoup plus sérieux, tels les syphilides à type hypertrophique, récidivant pendant toute la période secondaire. De même, en période tertiaire, l'irritation par le tartre, les racines ou les caries coupantes, les suctions de prothèses, les couronnes donnent de la congestion locale qui fixe admirablement le tréponème. Parfois aussi des coups ou des chutes. Dans la *tuberculose*, nous connaissons tous le danger des érosions de muqueuse buccale en contact avec des "crachats à BK", chez des organismes affaiblis, à défenses déficientes.

Conclusions pratiques.—(I) Grande importance de l'état buccal "*avant*". Tout est possible dans une bouche septique, tandis que les complications sont réduites au minimum dans une bouche soumise à une hygiène rigoureuse. *Donc, "hygiène stricte et préventive"*. En effet, un détartrage pratiqué en période d'état est dangereux, car il s'accompagne inévitablement de traumatisme de la muqueuse et ouvre des "portes d'entrée".

(II) Traitement à la période d'état: brossages, grands lavages; alcalinisation (borate de soude 5 à 10%) car la salive est hyperacide notamment dans les pyrexies. *Pas d'antiseptiques "caustiques"* (ouvrent la muqueuse) ni de collutoires *alcoolisés, sucrés, glycerinés* (sont d'excellents milieux de culture). Pour les ulcérations douloureuses, attouchements au Scuroforme.

(III) Supprimer toute irritation locale chez les tuberculeux et les syphilitiques.

Influence des états pathologiques buccaux sur l'état général

Ce sont surtout les *septicémies* aiguës ou chroniques qui retiendront notre attention. Les germes en cause, sont, par ordre de fréquence: 1° le strepto (hémolytique ou non); 2° les anaérobies (qui donnent notamment la cellulite du plancher buccal); 3° le staphylo (siège souvent dans les suppurations péri-dentaires; cependant, il donne rarement des septicémies d'origine buccale); 4° le pneumo, l'entéro, le tétragène, le bacille fusiforme.

L'expérience de Tellier (pendant 25 ans) a fait ressortir l'importance de la septicité bucco-dentaire et les Américains ont insisté sur la "focal infection". Il résulte de ces travaux que si les formes de septicémies "buccales" mortelles sont rares, les septicémies atténuées sont fréquentes; elles sont bénignes en soi, mais leur "continuité" peut entraîner des conséquences redoutables. Les *septicémies aiguës* sont plutôt dues à des extractions qu'aux grands traumatismes faciaux (qui, grâce aux méthodes actuelles, sont infiniment moins dangereux que jadis). Mais contrairement à l'avis général, ce ne sont pas les extractions faites en période de suppuration, d'ostéophlegmon, etc., qui sont les plus à craindre, car à ce moment les défenses organiques sont déjà alertées, la phagocytose est intense et la formation de pus est l'indice d'une violente réaction *locale*. Par contre, une extraction "dans une bouche septique" d'une dent infectée ou pyorrhéique qui ne présente autour d'elle que peu ou pas de réaction "locale" est un *danger*: l'anesthésie locale fige les défenses locales et favorise la pullulation microbienne. Il en va de même pour l'obturation d'une dent "infectée" quand on opère sans précautions et principalement au maxillaire inférieur (on fait ainsi de la dent un "vase clos"). Et enfin, le cathétérisme brutal d'un canal dentaire infecté reproduit les mêmes risques (1).

(1) Professeur H. FAUCONNIER: Il faut quatre conditions à l'installation d'une septicémie: 1° Le microbe; 2° Sa virulence; 3° La quantité; 4° Le terrain. De plus, la bouche est un foyer d'infection et elle est, en outre, en connexions étroites avec le tissu cellulaire de la joue, le péri-pharynx, le cou, la fosse temporale et surtout la région sub-linguale (très vascularisée); de là, envahissement facile de la base de la langue, très riche en lymphatiques.

Du même auteur: Les *foyers bucco-dentaires*: la pyorrhée, l'arthrite chronique, le granulome (néoformation conjonctive de défense contre les germes venant par la racine). Si l'affection générale disparaît par l'extraction, ce n'est pas toujours une preuve de la relation de cause à effet. Il s'agit souvent d'une coïncidence.

Pour obtenir une preuve "scientifique", il faudrait: I) Définir les germes du granulome; II) Définir les germes de l'affection; III) Définir les voies de communication.

Il y a d'autres causes aux septicémies aiguës, ce sont les *infections péri-dentaires aiguës* (vraisemblablement par obstruction brusque et accidentelle d'un canal radiculaire infecté).

Mais tout ceci est généralement en association avec des causes générales (telles le surmenage, la fatigue, le refroidissement ou les états morbides préalables: maladies infectieuses aiguës, lésions cardiaques, rénales, hépatiques. Intoxication, etc.).

FORMES CLINIQUES DES SEPTICEMIES.—(1) Aiguë sans localisation anatomique.

(2) Forme phlébitique aiguë ou phlébo-phlegmoneuse de Sébileau (sinus caverneux).

(3) Forme lymphatique aiguë ou lympho-phlegmoneuse de Sébileau (cellulite diffuse, pas de tendance à la formation de pus; phlegmon diffus d'emblée. Se présente dans deux conditions: virulence extrême, moindre résistance du sujet). Le cas pratique le plus grave est la "cellulite diffuse du plancher buccal".

(4) Septico-pyohémie: combinaison de septicémie aiguë ou chronique avec des localisations supprimées. (Surtout dues au strepto et staphylo). Toujours sur un terrain déficient.

(5) Septicémies chroniques: envahissement continu du sang par des microbes peu virulents, venant des régions gingivo-alvéolaires (pyorrhée et granulomes). Nous touchons encore ici à la "Focal infection" des Américains (il y aurait des foyers de microbes à virulence atténuée, capables de proliférer indéfiniment et de se répandre dans le torrent circulatoire, acquérant une affinité élective pour certains organes). Ce serait surtout le strepto viridans le grand responsable (Rosenow). Peu prouvé, exagération certaine, mais il n'empêche que les Américains ont introduit en pathologie

Les intoxications

INTOXICATIONS EXOGENES.—Il y a élimination de "toxines par la salive" (élimination compensatrice parce qu'il y a déficience du foie et des reins). Ces toxines exaltent le polymicrobisme buccal et notamment les fuso-spirilles. Il y a en outre altération de la salive (moyen de défense).

Le mercure.—Intoxications accidentelles et médicamenteuses donnant: stomatite, glossite, parotidite, adénite sous-maxillaire, ulcérations, hémorragies. Retenir la stomatite d'alarme de Fournier. Le traitement de ces lésions ne doit pas être curatif

Ces trois conditions sont bien difficilement réalisables en pratique. Et si même l'hémoculture est négative, ça ne prouve pas qu'il n'existe pas de germes dans le sang, ou qu'il n'y en a pas eu; l'affinité de certains tissus n'est pas non plus une preuve, c'est-à-dire que si l'injection du produit du granulome à un animal donne du rhumatisme, par exemple, la preuve n'est pas encore suffisante. Ce qui est en tout cas certain, c'est qu'il existe des affections dues à la "focal infection".

La *pyorrhée alvéolo-dentaire*, d'après le docteur RENE VINCENT, Paris (*Bruzelles-Médical*, 1932). Cette pyorrhée n'est pas une entité pathologique; cependant, elle présente un symptôme initial et constant: l'alvéolyse, qui est a) *aseptique*: c'est un trouble trophique, une parodontose coïncidant avec des troubles endocrino-sympathiques (résorption partielle de l'alvéole et de la gencive, avec déchaussement simple des dents). Elle peut être b) *septique*: gingivite prémonitoire, installation de la suppuration, puis période d'état, caractérisée par le "clapier pyorrhéique" (paradentite inflammatoire ou microbienne; l'alvéolyse l'emporte sur la destruction des tissus mous et constitue le clapier). Enfin, autre éventualité, c) *forme mixte*: il y a complication des troubles endocrino-sympathiques et accélération des lésions alvéolaires de la forme microbienne. L'hémoculture gingivale permet de révéler les "toxi-infections éloignées", impossibles à déceler autrement. La pyorrhée serait donc une infection par voie "endogène" et le traitement serait général (vaccinal) et local (stérilisation de la gencive et transformation en tissu scléreux).

Remarque. Il y a souvent coïncidence de la pyorrhée avec des entéropathies.

D'après BELIARD et VILENSKY, les causes de l'alvéolyse seraient: 1° Troubles trophiques endocrino-sympathiques; 2° Infection directe des microbes sur l'os principalement. Il y aurait une "prédisposition" anatomique.

D'après BERNARD KRITCHEVSKY, il existerait un antagonisme entre la pyorrhée et la carie: les caries se rencontreraient chez les individus à échanges trop actifs, et la pyorrhée chez les individus à échanges lents.

Le *clapier pyorrhéique* serait constitué comme suit, toujours selon R. VINCENT: Une zone externe de nécrobiose, puis une zone moyenne infiltrée de microbes et de leucocytes; enfin, une zone périphérique profonde, inflammatoire, active (capillaires dilatés, afflux de leucocytes, peu de germes). Au niveau de la zone active, il y aurait perpétuellement "décharges" microbiennes (bactériémie).

Les *extractions en période inflammatoire*, d'après le professeur FAUCONNIER. L'extraction est possible si l'abcès n'est pas formé, que les douleurs sont vives, que la dent est facile à extraire et si possible, inutile dans l'avenir. Par contre, s'abstenir si l'abcès est formé, si la dent est fortement implantée (on risque alors le traumatisme de l'os, d'où porte de communication avec la circulation sanguine ou lymphatique). Il vaut alors mieux intervenir à froid.

mais préventif, c'est-à-dire "mise en état de la bouche avant tout traitement au Hg (Parrot)". Caractères de la stomatite: salivation et fétidité extrême de l'haleine.

Le bismuth.—Parfois lésions dues à des sels "insolubles" (par exemple le sous-nitrate de Bi absorbé par une muqueuse gastrique ulcérée ou solubilisé par la présence de coli-bacille ou d'acides divers: lactique, citrique, tartrique). Mais les sels "solubles" sont surtout en cause. Il faut 3 conditions à l'apparition de la stomatite: 1° Fonctionnement des reins et du foie. 2° Etat buccal "avant". 3° Rythme d'administration du médicament (0,50 cgr. en une fois donne presque certainement des accidents buccaux—0,30 cgr. tous les 2 ou 3 jours n'en donne presque jamais si les conditions 1° et 2° sont satisfaisantes). D'après Azonlay, le Bi passe dans la salive 22 heures après l'injection de sel soluble, 24 heures pour les insolubles. Le "liséré" constitue le "stade d'impregnation"; si le traitement est continué, on obtient la stomatite (après la gingivite bismuthique d'alarme). Mêmes signes que le mercure, mais il n'y a pas de salivation et la fétidité de l'haleine est beaucoup moindre. En outre, les signes généraux sont beaucoup moins marqués.

Le plomb.—Lisééré saturnin de Burton, ardoisé, surtout localisé aux incisives et canines inférieures. De même aux points d'inflammation de la muqueuse. Parfois parotidites chroniques.

L'or.—Eruption cutanée et stomatite (voûte et voile; ulcération après œdème. Parfois localisations multiples).

Le phosphore.—Le blanc est le plus toxique, le rouge pas, mais s'il passe dans le corps par voie sous-cutanée ou intra-musculaire, il se transforme en phosphore blanc (éclats d'obus incendiaires pendant la guerre). Lésions nécrotiques uniquement aux mâchoires, mais vraisemblablement les caries pénétrantes sont indispensables pour permettre aux vapeurs de phosphore de pénétrer jusqu'au cœur de l'os.

L'arsenic.—La stomatite arsenicale est une exception, sauf "arsenicisme chronique". L'haleine est "alliagée". Pour certains auteurs il s'agirait d'une "stomatite fuso-spirillaire due à l'As". Or le traitement classique de cette stomatite est le "Novarsénobenzol". Cette interprétation est donc pour le moins douteuse. ⁽¹⁾

Le cuivre.—Donne gingivo-stomatite fongueuse avec liséré verdâtre aux incisives inférieures.

L'argent.—Rare. Parfois gingivite, pytalisme, haleine fétide, liséré brunâtre avec des incisives ardoisées et pigmentation cutanée "gorge de pigeon".

L'antimoine.—Gingivite aiguë, fongueuse, ulcéreuse, plaques de nécrose, pytalisme, parfois liséré noir. Rare. (Traitement par émétique est la cause.)

L'iode de potassium.—Dans le cas d'administration prolongée: bulles pemphigoïdes extensives (cf. syphilides). Chompret et Dechaume attirent l'attention sur la carie dentaire au cours des traitements longs à l'iode.

Le bromure de potassium.—Dans les traitements longs et intensifs, on voit des stomatites catarrhales très tenaces (surtout avant l'emploi du luminal et du gardénal) et d'autant plus que, chez les épileptiques notamment, le système dentaire est en mauvais état. Haleine caractéristique et pytalisme intense.

Les autres produits (benzol, chloral, salicylate, quinine, belladone, copahu, etc.) donnent des purpuras toxiques avec bulles sanguines buccales, cause d'hémorragies.

Antipyrine.—Vésicules buccales brusques (antipyrinides) avec, généralement, éruptions cutanées.

Gonacrine.—Gingivo-stomatite (Le Bourhis).

⁽¹⁾ *Stomatite arsenicale* (Revue de Stomatologie française, 1933). Symptômes comme dans la stomatite à fuso-spirilles. D'abord ulcération du bord libre de la gencive tuméfiée, saignante, augmentée de volume. Plaques oblongues, jaunâtres, peu saillantes; exsudat noirâtre au fond. En même temps, mêmes lésions à la face interne des joues, surtout au point de rencontre des deux arcades. Toujours adénopathie sous-maxillaire et dysphagie plus ou moins marquée. Contrairement à l'avis ci-dessus, cette stomatite serait fréquente.

Stomatite saturnine (suite de tentative d'avortement). Docteurs A. JOUSSET, DARCISSAC et HENNIION (Revue de Stomatologie, 1933). On n'avait pas signalé un seul cas depuis 1855. Ici, intoxication générale grave avec stomatite. Coloration "ardoisée" des muqueuses et les tampons d'ouate passés sur les muqueuses se colorent de même. Il y avait eu absorption de 25 gr. de sous-acétate de plomb en quelques jours. Le caractère de gravité était

INTOXICATIONS ENDOGENES.—Même processus que les intoxications exogènes.

La stomatite urémique.—Surtout dans les néphrites chroniques et chez les vieux urinaires au cours des toxi-infections d'origine chirurgicale. L'haleine est fétide (odeur d'ammoniac due à la fermentation ammoniacale d'urée excrétée par la salive) et est perçue par le malade lui-même et parfois "plusieurs semaines" avant la stomatite; cette dernière peut présenter la forme "érthémato-pultacée" ou la forme ulcéreuse. Diminution de la salive ou ptyalisme allant jusqu'à 800 gr./24 h. (On trouve 6 à 8 gr. d'urée au lieu de 0,25 gr.)

La stomatite diabétique.—Salive visqueuse, plutôt acide; parfois "glycosialie". Haleine fétide (acétone), toux sèche, muqueuse racornie, rouge, vite fissurée et ulcérée. De plus, *gingivite expulsive* de Magitot (caractérisée par une "alvéolyse" aiguë, c'est-à-dire une fonte alvéolaire débutant par la surface).

Conclusions pratiques: En présence d'une alvéolyse à marche rapide, d'une gingivite expulsive, il faut toujours penser au diabète: c'est un signe *précoce*.

La stomatite hépatique.—La bouche subit toujours le contre-coup des déficiences du foie (muqueuse lisse, luisante, rouge vif. Gencives tuméfiées, fongueuses, saignant spontanément parfois d'une façon profuse). On ne peut, sur la seule constatation de la stomatite, affirmer que le foie est atteint. Mais si, au cours d'une déficience hépatique, la stomatite en découlant est intense et persistante, on doit en conclure que l'insuffisance hépatique est irrémédiable.

Les maladies par carence

Dans le *Scorbut*, on rencontre plus ou moins tôt des signes buccaux; le tableau clinique est plus grave chez l'adulte que chez l'enfant qui n'a pas encore de dents; au contraire, si l'enfant possède des dents, le tableau clinique se rapproche de celui de l'adulte. Quoi qu'il en soit, il est indispensable, en plus du traitement causal, de mettre la bouche en état.

Dans le scorbut expérimental, on a constaté qu'il se produit une résorption totale du ligament alvéolo-dentaire. En même temps, il est prouvé qu'un régime de carence donne des troubles des tissus dentaires chez les animaux et notamment les jeunes. Il y a donc là une indication précieuse pour la pathogénie des caries.

Dans la *Pellagre* les signes buccaux apparaissent surtout au printemps et particulièrement au moment de l'érythème. En plus de l'élargissement du régime (addition de viande), il importe d'établir une hygiène buccale rigoureuse.

Dans le *rachitisme*, nous trouvons des troubles à la fois osseux et hémolympatiques (terme d'ostéo-lymphatisme de Marfan). De plus la vitamine D

ici très sérieuse et il y a avait lieu de craindre un noma. Classiquement, le liseré gingival apparaît dans les 12 ou 14 premières heures. Il faut distinguer la remarquable action de l'acide trichloracétique en attouchements.

Ouvriers en acide chlorhydrique. Dents rugueuses, brunies, à bords tranchants, amincis, cassants. Jamais de cavités, la dent disparaissant sous la gencive (la pulpe reste vivante et il se forme de la dentine secondaire, qui protège la dent des agents extérieurs à mesure que progresse l'usure.

Caries toxiques. Morphine, iodures: De 30 à 50 ans, ces intoxications attaquent toute la dent. Il n'y a pas de douleurs spontanées, mais toute douleur provoquée donne des réactions "excessives". Les caries sont brunes.

Etiologie. Cause externe: inappétence, donc insuffisance de mastication, sécrétion salivaire moindre et acides plus actifs. Cause interne: la morphine inhibe le sympathique. Il y a altération des cellules "odontoplasiques", d'où mortification des tissus dentaires.

Anatomie pathologique. Hypoplasie de l'émail, décalcification de la dentine et résorption de la substance fondamentale. Néofornication dentinaire dans les canaux dentaires. Coloration jaune foncé de la dent.

Pour le docteur LE NORCY, de Rennes, 1° Certaines affections très déminéralisantes ne s'accompagnent pas de troubles dentaires; 2° La dent est un organe ou bien à apports de calcium insuffisants ou bien un organe de réserve de calcium où puise l'organisme. Bien nourrir la mère, favoriser au maximum son assimilation, telles sont les règles rationnelles, car c'est pendant la vie embryonnaire et la première enfance que la dent est encore perméable aux sels de calcium.

Calcification des dents. d'après le docteur CAVALIE (professeur à la Clinique stomatologique de Bordeaux). Dans les troubles de croissance des dents, il y a des troubles du métabolisme cellulaire des éléments de la pulpe, d'où trouble dans la constitution minérale et organique des tissus calcifiés (émail, dentine et peut-être corticale osseuse).

Prophylaxie de la carie: docteur L. FREY (*Monde médical*). Toute toxi-infection de la pré naissance et de l'enfance retentit sur le calcium dentaire et ralentit avec l'âge. Donc, les influences positives ou négatives sont

serait douée d'un pouvoir: 1° calcifiant et 2° d'un pouvoir de protection de la cellule cartilagineuse de l'enfant vis-à-vis des infections et intoxications. L'ergostérol existe naturellement dans le sang, la peau et les glandes; il est inactif normalement, mais s'il est soumis à la lumière solaire ou aux U.V., il se transforme en "principe antirachitique".

Pour Frey, le maxillaire supérieur, os éminemment aréolaire, spongieux, participe à tous les troubles généraux. Étant donné les rapports intimes unissant le maxillaire supérieur et le tissu adénoïde du nez et du pharynx, il en résulte que cet os subit aussi le contre-coup des congestions et des scléroses de ces organes. La respiration uniquement buccale (végétations, glossopse) amène la déformation du palais en ogive par l'action de la sangle musculaire péri-maxillaire (J. Ferrier).

Quant au maxillaire inférieur, il est beaucoup moins touché par le rachitisme parce qu'il est plus indépendant. Toutefois certaines malformations (produites par des muscles agissant sur un os malléable) sont à signaler: 1° Ouverture exagérée de l'angle maxillaire (ou "obtusisme rachitique"); la respiration uniquement buccale tient en contracture, surtout la nuit, les muscles "abaisseurs" qui tirent en bas la branche horizontale, tandis que la branche montante reste fixée par la tonicité des élévateurs (Frey et Névrezé). 2° Elargissement de l'os: le masséter prédominant sur le ptérygoïdien interne, agit au niveau de ses insertions inférieures en produisant une sorte de torsion qui amène le bord inférieur du maxillaire inférieur vers l'extérieur et les molaires vers le dedans. 3° Il se produit aussi des troubles dans les dates d'éruption (précocité, 13,5%; retard, 38%). Parfois nanisme des dents de lait, parfois aussi gigantisme des incisives centrales supérieures. Dentine lacunaire (futures caries). *Erosions* fréquentes dans l'émail: ce serait plus le résultat de la tétanie que du rachitisme. On a même décrit un "prognathisme rachitique" mais ce n'est en réalité qu'un pseudopognathisme dû au fait que le maxillaire supérieur étant atrophié, l'inférieur qui est *normal* paraît beaucoup plus développé.

Les troubles endocriniens

Remarque initiale.—La symptomatologie endocrinienne est inséparable de la symptomatologie sympathique. De même il existe une synergie endocrinienne.

LE CORPS THYROÏDE.—Son action sur poils, peau et ongles est manifeste; or les dents ont même origine "ectodermique" que ces organes.

Dans l'*hypothyroïdie*.—Il y a des troubles de l'évolution des dents. Cette

maximales dans la période pré-éruptive et minimales dans la vieillesse. Quant aux causes locales de la carie, il faut retenir le *phosphore salivaire*; dès qu'il s'écarte du taux normal (soit 6, 8 à 7), la ptialine agit mal sur les hydrocarbures, qui sont, du fait, en excès et favorisent les fermentations de décalcification.

Les conclusions thérapeutiques sont: 1° Hygiène locale (mécanique); 2° Lutte contre les toxi-infections; 3° Diététique (alimentation calcifiante); 4° Direction avisée des influences endocriniennes, lumineuses et vitaminiques.

Glandes endocrines et évolution dentaire (Revue odontologique, 1932). Dans l'*hypothyrmie*, on constate que les dents ont un aspect "juvénile", sont laiteuses, transparentes, à bords festonnés, avec des érosions et des caries.

Glandes génitales. Rôle douteux, car toutes les dents (sauf la dent de sagesse) font leur éruption avant le développement complet des glandes génitales.

Ophothérapie thyroïdienne chez l'enfant (LEREBoullet et GOURNAY, Bruxelles-Médical, 1934). Ce traitement favoriserait, non seulement le développement des glandes sexuelles, mais encore la croissance et la nutrition. Importance au point de vue dentaire.

Caries en période obstétricale (Revue odontologique, t. LIII, 1932). Le calcium est pris aux réserves maternelles et la décalcification est d'autant plus forte que la grossesse est avancée.

En ce qui concerne les "polycaries", la décalcification physiologique est insuffisante comme explication, car: 1° il y a peu de polycaries chez les parturientes; 2° les caries sont parfois précoces, alors que la calcification du fœtus se fait en fin de grossesse; 3° il y a intégrité des dents dans des cas patents de décalcification pathologique. Il y a donc un facteur morbide complémentaire. Lequel? Apports insuffisants? Troubles gastro-intestinaux? Carence vitaminique?

Pour VIGNES, il faut: 1° Soigner les femmes enceintes, quel que soit leur état; 2° Respecter la décalcification physiologique et ne pas surcalcifier (ce qui présente des dangers pour l'accouchement); 3° S'il y a des polycaries, alors recalcifier.

Remarque. Cette recalcification chez les hypervagotoniques est particulièrement avantageuse, car elle augmente le tonus utérin et diminue les hémorragies.

Puerpéralité (Presse médicale, n° 36, 6 mai 1933; docteurs LANTUEJOUL et DECHAUME. Importance capitale du terrain et du fléchissement des défenses chez certaines femmes en fin de couches ou pendant le travail. Quelles sont les lésions bucco dentaires qui sont intéressées? 1° Les lésions dentaires et périapicales: les caries sont

affection a aussi grande importance dans l'alvéolyse (cf. phalanges séniles). Résultats heureux dus à l'opothérapie correspondante.

Dans l'*hyperthyroïdie*.—Ce trouble est de tout premier ordre dans la genèse des caries. (Abondance des caries dans le Basedow; dans les cas graves, parfois effondrement total de la denture).

GLANDES PARATHYROÏDES.—La calcification des dents est impossible chez des rats expérimentalement privés de parathyroïdes; inversement, la calcification se fait après greffes de glandes. De même l'ablation des parathyroïdes chez les jeunes animaux donne des 'taches blanches dans l'émail des dents'. De plus le traitement par "calcium et extraits de parathyroïdes" donne d'excellents résultats chez l'adolescent.

L'HYPOPHYSE.—L'*acromégalie* est due à l'hyperfonctionnement du lobe antérieur; nous y trouvons, entre autres, des déformations "craniofaciales" intéressant le stomatologiste: *macrognathie* totale avec augmentation de la distance bigoniaque, protrusion labio-mentonnaire (parfois ectropion de la lèvre inférieure), augmentation de la distance nasomentonnaire avec abtusisme mandibulaire (150°). Elargissement de l'arcade inférieure, langue volumineuse; maxillaire supérieur à peu près intact d'où trouble de l'articulé: béance considérable de l'articulation. Parfois le tissu gingival lui-même est touché d'où véritable "éléphantiasis" des gencives recouvrant presque entièrement les dents. Plus rarement atteinte du palais, du voile, des piliers, de la luette, avec troubles de la phonation et de la déglutition.

Le *nanisme* est dû à un "hypofonctionnement" du lobe antérieur et ce trouble donne la *progérie* de Gilford ou nanisme à type sénile de Variot: la face et les maxillaires "infantiles", le sinus est réduit, la voûte palatine petite et étroite (5,5 mm. dans un cas) micrognathie mandibulaire sans angle goniale. Denture irrégulière avec coexistence de dents temporaires et permanentes: perte de l'articulé.

Dans la *maladie de Simmonds* (atrophie du lobe antérieur) on assiste d'abord à une *alvéolyse* à marche rapide qui précède parfois de très loin, les autres signes de la maladie (cf. communication des docteurs Derouaux et Fanielle, *Liège Médical*, n° 12 du 24 mars 1935).

Les glandes génitales

Le testicule semble bien n'avoir aucune influence sur le système dentaire; au contraire, l'ovaire présente beaucoup plus d'intérêt, étant donné qu'il passe par 4 grandes périodes: puberté, menstruation, grossesse et ménopause.

LA PUBERTE.—Caries fréquentes; sans doute l'activité ovarienne à ce moment ébranle toutes les autres glandes et notamment la thyroïde; vraisemblablement ces

des cavités où séjournent les germes les plus variés; les infections péri-apicales laissent passer les microbes dans le sang ou la bouche (fistules); il y a enfin des lésions gingivales en contact avec des caries. 2° Les lésions *gingivales*: gingivo-stomatites, que la grossesse aggrave. Les affections les plus dangereuses ne sont pas celles qui sont les plus bruyantes (une pulpite est moins grave qu'une pyorrhée; un granulome même est aussi moins grave). Le strepto non hémolytique d'abord, puis le fuso spirille seraient les grands coupables.

L'infection peut se faire par "apport direct" (la parturiente porte elle-même la main à la vulve; idem pour l'infection du sein) ou bien par apport de l'accoucheur ou de la sage femme (il faut donc porter un masque); enfin, il reste la voie sanguine (1re observation au Congrès de Stomatologie de 1929, par MM. LARDENNOIS et LECLERQ: accouchée de 25 ans qui a plusieurs accidents septiques jusqu'à même une ostomyélite du radius. Elle a guéri définitivement par l'extraction de la dent de sagesse inférieure droite; dans cette région on a retrouvé le même strepto que dans les lésions du radius).

Autres observations: Infection grave du sein par infection directe. Entretien de lésions gastriques par lésions bucco-dentaires, intoxication et maintien des vomissements. Infection génitale. Avortement à répétition: localisation à l'utérus et au placenta (même strepto que celui retrouvé, au 4me mois, dans le pus gingival, dans l'urine et dans le sang du cœur foetal; de même dans les amygdales; guérison par auto-vaccin). Décollement prématuré du placenta et mort du fœtus. Infection post partum (le strepto retrouvé dans l'utérus est le même que celui des lésions buccales évolutives). Cependant, il faut se montrer très prudent dans l'interprétation. Pratiquement, il faut dépister les foyers bucco-dentaires, amygdaliens, pharyngiens, cutanés. D'autre part, les suites de couches pathologiques sont moins nombreuses en ville qu'à la campagne, parce que les femmes de la ville se soignent mieux la bouche; en général, toutefois, l'état buccal des femmes est mauvais pendant leur grossesse. Il est donc indispensable de réaliser la collaboration "obstétricale et stomatologique". Cette collaboration finira par triompher du "préjugé" qui veut qu'on ne doit pas soigner la bouche des femmes enceintes.

caries sont dues à une hyperthyroïdie transitoire; il y a aussi assez souvent persistance de dents de lait et retard des permanentes (hypo-ovarie simple ou associée à des troubles thyroïdiens).

LA MENSTRUATION.—Nous constatons fréquemment, à cette époque, de l'herpès (cataménial) du "liséré congestif des languettes interdentaires". Il s'agit de troubles d'innervation vaso-motrice (cf. acroérythrose). De plus, à ce moment, il y a renforcement ou déclenchement des "névralgies dentaires".

LA GESTATION.—Cfr. menstruation mais en plus intense. *Gingivite*: il n'est pas question du renforcement d'une gingivite préexistante, mais c'est une gingivite de nature "vaso-motrice" localisée à la région antérieure (incisives) et ce en dépit de l'hygiène buccale la plus rigoureuse. Ce n'est donc pas une gingivite infectieuse. Nous pouvons rencontrer aussi des "algies" vaso-motrices: douleurs dentaires péri-dentaires et spécialement localisées aux dents déjà soignées.

LA MENOPAUSE.—Les répercussions buccales sont ici beaucoup moins évidentes car la fonction de l'ovaire cesse "progressivement" et il se produit une sorte d'adaptation. Tandis que dans la "ménopause chirurgicale" la fonction cesse brutalement et il s'installe une "alvéolyse précoce" qui conduit parfois à l'édentement total à 35-40 ans.

Remarque générale.—Toutes ces données étant encore du domaine de l'hypothèse, il est raisonnable d'accueillir ces théories avec réserve.

(à suivre)

Acryliques

Questions et réponses par le Dr MAURICE N. STERN

QUESTION:

Opacifiez-vous la structure métallique d'un pont après l'enlèvement de la cire?

REPOSE:

Non. Le meilleur temps pour cette opération, c'est après l'avoir débarrassé de toute trace de fondant ou d'oxyde et avant de le cirer.

QUESTION:

Y-a-t-il avantage à se servir d'instruments à diamants dans la préparation des coiffes?

REPOSE:

Il n'y a pas de doute que tous ceux qui emploient ces instruments les croient supérieurs aux fraises ou aux pierres montées. Il sont plus faciles à contrôler pour empêcher le dérapage si facile à la face linguale difficile d'accès. Le parallélisme des parois s'obtient plus facilement et l'on prévient aisément les entailles.

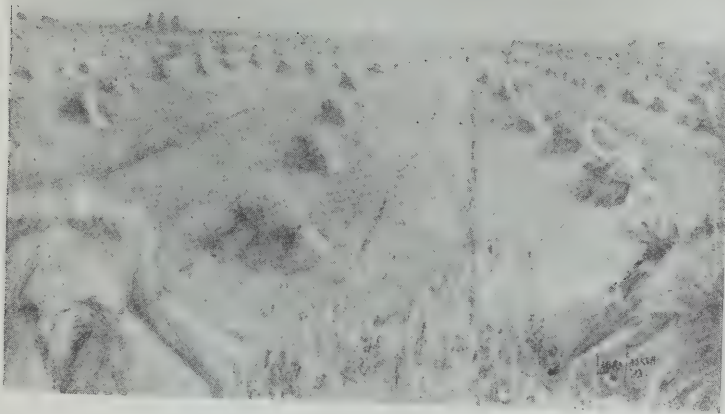
QUESTION:

Quel agent employez-vous pour cimenter les incrustations et les coiffes en acryliques?

REPOSE:

La ligne visible due aux ciments opaques gêne l'esthétique de telles incrustations. Il faut un ciment résistant, translucide, insoluble et lent de prise. L'Oxylit est une porcelaine modifiée (pour dents postérieures) qui satisfait aux exigences. Il est translucide, mais on peut augmenter cette qualité par l'addition de Durodent (une porcelaine faite par le même manufacturier).

Toutes les questions doivent être adressées au Dr Maurice N. Stern, 114-06 Queens Boulevard, Forest Hills, New York, U.S.A.



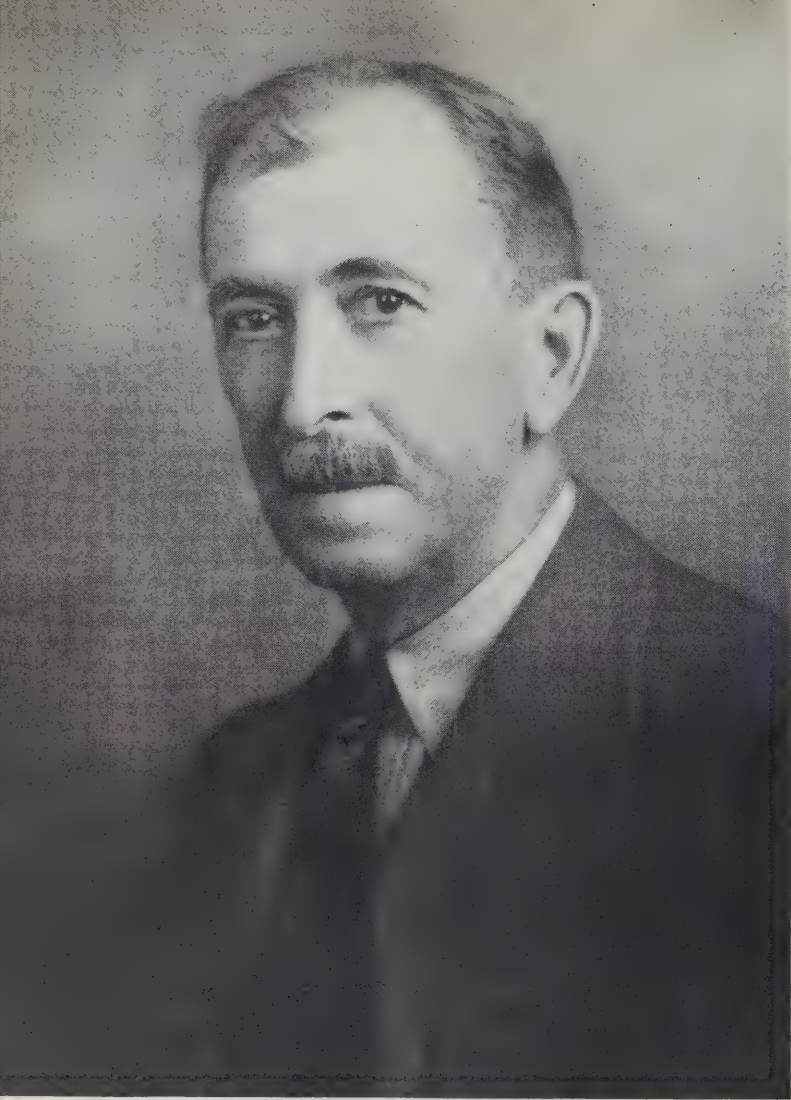
FINE HARVEST

Reproduction of oil painting by Mrs. L. J. D. Fasken of Regina, Saskatchewan, wife of the Secretary-Treas. and Registrar of the College of Dental Surgeons of Saskatchewan.

Mrs. Fasken was founder of the Women's Art Association of Saskatchewan and exhibits each year in this Association. She has also exhibited in Montreal and Toronto.

We know that in severe pyorrhea slight degrees of dental trauma, such as might be occasioned by biting on a loose tooth, commonly lead to a bacterial shower in the blood-stream. It is apparent that under those conditions there is probably an almost constant intermittent leakage of organisms from the mouth into the blood. Scrupulous attention to oral hygiene would seem indicated, therefore, especially in subjects with any cardiac abnormality.—S. D. Elliott, M.B., in Proceedings of the Royal Society of Medicine.

At one time, salt was regarded as divine, and almost as valuable as gold. Soldiers, officials, and working people in Greece and Rome received all or part of their pay in salt. Money paid for labour or services was termed Salarium from whence came our word Salary. From the custom of paying with salt comes the popular phrase "worth one's salt."—Garrett Starmer in "The Modern Thinker."

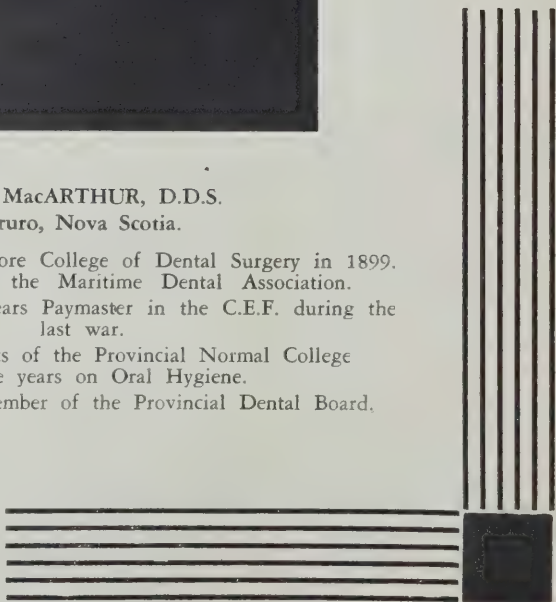


C. S. MacARTHUR, D.D.S.
Truro, Nova Scotia.

Graduated from Baltimore College of Dental Surgery in 1899.
Past President of the Maritime Dental Association.
For two and a half years Paymaster in the C.E.F. during the
last war.

Lectured to students of the Provincial Normal College
for some years on Oral Hygiene.

For some years a member of the Provincial Dental Board.



The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 10

TORONTO, SEPTEMBER, 1944

NO. 9

The Location of Bacteria in the Oral Tissues

by E. WILFRED FISH, M.D., D.D.Sc., D.Sc., London, England

(From the Meyerstein Laboratory for Dental Research, St. Mary's Hospital, Paddington, London, W.2.)

THE question as to whether the tissues surrounding the teeth are sterile or infected is one which has been under discussion for many years. It would, at first sight, appear to be a very simple question to answer, but there have been a few fairly fragrant red herrings, and, in fact, the answer is not so very simple and calls for rather close attention if it is to be of practical value. Nevertheless it seems to be a most important, if not indeed the most important subject in the whole realm of dental pathology to the practising dental surgeon.

In the first place the problem must be stated more precisely. (1). In the case of a perfectly healthy young mouth in which the enamel covering of the teeth is still intact and in which there is still a firm well keratinized epithelium covering the gums, well attached round every tooth, may it be assumed that the alveolar bone, the periodontal membrane and the pulps of the teeth are all sterile? (2). When caries has penetrated the enamel, but has not clinically exposed the pulp, is the pulp still sterile? (3). When the epithelium at the gum margin is ulcerated and the gum margins have be-

come detached from the teeth, when pockets have formed and there is pyorrhea alveolaris, are the bone and the periodontal membrane themselves in a state of chronic infection or are they still sterile?

There is a further problem. When a pulp is exposed it has a septic ulcer on it at the point of exposure but how deeply is it infected? Is the pulp tissue in the root canals, which we find to be histologically normal in appearance, sterile or is it infected too? We know, of course, that when the pulp is dead the whole canal is infected, but is the apical granuloma also infected? There is no doubt of course when there is an actual abscess at the root of a tooth, in contradistinction to an apical granuloma, that the pus in this abscess cavity is heavily infected just as it is known that the pus in the pyorrhea pocket on the surface of the gingival ulcers is infected or that when there is a periodontal abscess the bacteria must have found their way down the periodontal membrane.

KEY TO THE SOLUTION

The key to the solution of all these problems would appear to lie in deter-

In this paper which was kindly written for the Journal of the Canadian Dental Association, Dr. Fish used the term parodontal instead of periodontal.

The latter term has been used throughout in publishing this paper in order to conform to the nomenclature adopted by the Journal.—Editor.

mining the distribution of the bacteria in relation to a simple chronic streptococcal ulcer whether it be on the cornu of a pulp, at the gum margin, deep in a pyorrhea pocket, or, for that matter, on the tonsil or on a leg afflicted with varicose veins.

It seems to be a fairly widely held opinion that the alveolar bone all round teeth which are affected by pyorrhea is itself infected and that this infection may persist as "Residual Infection" even after extraction of all the teeth. This view is based upon the observation that almost every tooth, whether vital or not, regularly provides a heavy growth of streptococci from the root apex after it is extracted, despite the lavish use of iodine or other disinfectant round the gum margin beforehand, and despite every precaution against contamination both during and after extraction. This observation would certainly seem to prove that the periapical tissues are almost always infected, even round teeth with vital pulps; yet many writers have shown a marked hesitancy in accepting such a pessimistic view. It has further been recorded that the pulps of impacted and even completely buried third molars would often provide a growth of streptococci after the teeth had been laboriously dug out and cracked open and the implications of this observation impose an even heavier strain on our credulity.

A clue to the way in which these organisms get on to the apices of extracted teeth or even into the pulp was, however, provided by Okell and Elliott² who found that when teeth were extracted a bacteriaemia was in most cases set up and that the mouth organisms could be recovered from a vein in the arm within a few minutes of the operation. This finding shed a new light on the problem, showing that wherever the infection is localized when the tissues are at rest, it may be very easily disseminated as a result of operative interference. Okell and Elliott's work, therefore, called for a review of the evidence as to the normal

distribution of bacteria in relation to chronic foci of infection. For instance, supposing that the bacteria were confined in pyorrhea to the debris in the pocket and to the surface of the ulcers at the gum margin it would seem from Okell and Elliott's work that they could be pushed into the blood stream, or even into the subjacent fixed tissues by the trauma of extracting the tooth, so that they might find their way on to the apex of the tooth at the moment of extraction or into the previously sterile pulp of the extirpated third molar or even into the median basilic vein, purely as a result of the disturbance caused by the operation. This view, if it could be established would provide a scientific background for the treatment of periodontal disease and, by extension, would suggest a new method of root canal surgery promising results as uniformly good as in the past they have been, for the most part, consistently bad. Even "dry sockets" might be prevented and all surgical interference in the mouth would become less unpredictable and empirical.

FIGURE ONE

It follows, therefore, that if this matter is to form such a comprehensive background to oral surgery it should be stated very clearly and explored very thoroughly. Fig. 1 depicts a tooth with quite normal, healthy, attachment of the gum margin on the left side and it may, for the moment, be assumed that the firm well keratinized and unbroken epithelial attachment serves to keep out any organisms just as effectively as does the skin over any other part of the body. Moreover if this skin is punctured and a few streptococci are introduced into the deeper tissues the usual rules apply. Either the organisms are immediately attacked, killed and carried away by phagocytes, or they kill the phagocytes and form an abscess in which they flourish until the abscess bursts, evacuates its contents and healing takes place. In either case the phagocytes surround the organisms, localize them, and ultimately

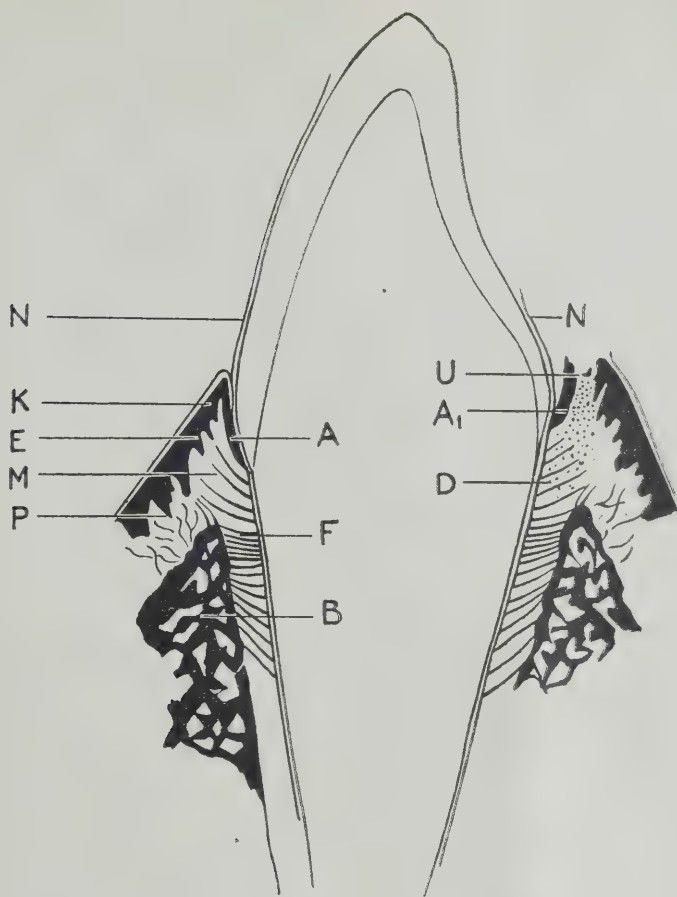


FIGURE 1.

Normal gum margin (left): early marginal gingivitis (right).

(From *Parodontal Disease* by the author; reproduced by courtesy of Messrs. Eyre and Spottiswoode Ltd.) N=Nasmyth's membrane. E=The epithelium covering the gum margins with its processes (P) into the corium. K=the keratinized cuticle of the epithelium. A=the attachment of the epithelium to the enamel. M=the periodontal fibres attaching the mucoperiosteum to the tooth. F=the periodontal ligament. B=the bone. U=a marginal ulcer. A₁=degenerating epithelium still attached to the enamel. D=infiltration of the tissues by lymphocytes (represented by dots) forming the base of the ulcer and spreading down amongst the periodontal fibres. These fibres are slowly destroyed by proteolytic enzymes diffusing in through the base of the ulcers, or possibly by histiocytes following contamination by these tissue break-down products.

destroy them either at once or after an intense assault in which many of the leucocytes themselves are killed; that is to say, after an acute suppurative inflammatory reaction which in this case would be a periodontal abscess.

It would be breaking all the rules to suggest that a streptococcus can just settle down unmolested in the tissues;

the classical teaching of pathology is that there will always be polymorphonuclear leucocytes attacking it and it must either find a refuge such as a necrotic pulp canal or a sequestrum of bone or even a fragment of dead soft tissue or debris which will afford it at least temporary immunity from the leucocytes and in which it can multiply

and form an abscess or else it must immediately succumb.

So far as the tissues depicted on the left side of Fig. 1 are concerned there is then no special dental problem, for whenever the surface epithelium and its attachment are intact right up to the tooth one never finds any histological sign of an inflammatory disturbance in the underlying tissues which would, therefore naturally be presumed to be sterile. They can in fact easily be proved to be sterile by cauterizing the gum margin and extracting and culturing the tooth in the way about to be described. Alternatively a direct culture can be made from the bone by a method which has proved useful in investigating the presence or absence of bacteria in all kinds of situations.

For instance, when the mucous membrane is intact over the edentulous lower alveolus and there are no retained necrotic fragments of teeth or sequestra of bone, the theory of "residual sepsis" is easily put to the test. If the mucous membrane is dried, isolated, and touched with the actual cautery to ensure surface sterility, a sterile bur driven through the cauterized spot into the bone will, in the author's experience, always be found to remain sterile.

On the right side of the tooth in Fig. 1, however, the surface is ulcerated and the ulcer is kept open by the constant trauma of mastication. A smear from the surface would disclose pus cells, that is, polymorphonuclear leucocytes, both alive and dead, as well as a heavy growth of streptococci. Now the question is, how deeply do these streptococci penetrate into the tissues? Setting aside for the moment the fact that if they did penetrate into the tissues they would be surrounded and attacked at once by the leucocytes, are we to suppose that despite the *prima facie* arguments against it, the bacteria do normally invade the bone setting up a so-called "low grade" infection of the bone as so many writers have suggested? If so, how far does

the infection extend? Is the periodontal membrane involved? Is the body of the bone involved, and, if so, where does it stop? Histologically the answer is invariably that so long as the lesion is undisturbed the organisms do not invade at all for if a section be made of a *post mortem* specimen of jaw with the teeth *in situ* as in Fig. 1, the ulceration will be observed and if alternate sections be stained with Gram's stain for bacteria the streptococci will be found surrounded by leucocytes at the surface of the ulcer but never deeper in the tissues. There will be a heavy infiltration of the tissues forming the floor of the ulcer with lymphocytes but there will be no bacteria amongst them. The lymphocytic infiltration may extend deeply into the bone, even as far as the antral floor, but these lymphocytes, though motile, are not phagocytic and that is perhaps the reason why they are never found in contact with actual streptococci; they are always found on the outskirts of the lesion where soluble toxic matter may be encountered diffusing away from the infected area.³

OBSERVATION SUPPORTING HISTOLOGICAL EVIDENCE

Three very definite observations serve to support this histological evidence and explain the apparently conflicting findings. One is that if the organisms on the surface are really destroyed, experimentally, by passing the actual cautery over the gum margins to the bottom of the sulcus or pocket all round the tooth and then the tooth be carefully extracted, the root of the tooth, its pulp (assuming it to be alive and unexposed) and the fragments of periodontal tissue attached to the tooth are all found to be sterile even though there was severe pyorrhea indicating that the infection was all confined by the leucocytes to the surface of the ulcers where it was destroyed by the cautery.¹

The second observation which supports this view is that if the ulcer be protected from masticatory trauma

and caused to heal, and the epithelium be made to grow strong and firm right up to the point of attachment to the tooth by graduated daily friction, a perfectly normal histological appearance will be restored to the underlying tissues which will become as manifestly healthy as those depicted on the left side of the tooth in Fig. 1.

The third piece of evidence is that a condition does occur and is a not uncommon experience in practice where organisms are actually pushed down into the deeper tissues of the periodontal membrane by some act of trauma associated with masticating sharp fragments of food such as toasted crust or a fish bone. On these occasions an abscess does in fact develop and we recognise it as a periodontal or "pyorrhea" abscess. If this opens into the sulcus the pocket is immediately deepened to an enormous extent and we have a case of pyorrhea profunda—a deep circumscribed pocket on one side of one tooth while other parts of the gum margin may only be superficially ulcerated or appear almost normal.

The crucial experiment, however, which has repeatedly been confirmed by a number of careful operators, is the one in which the gum margin of a tooth to be extracted is first cauterized, whereupon both the apex of the tooth and also any blood sample taken from a vein in the arm are found to be consistently sterile, provided the pulp of the tooth was vital and unexposed. This observation cannot be checked too often, since the deductions from it are of fundamental importance in everyday practice. Failure to get consistently sterile apices may, of course, be due to faulty technique and it is wise to experiment on the more conveniently placed single-rooted upper teeth in the front of the mouth, though the more severely they are affected by chronic pyorrhea and the easier they are to extract the better, provided the cautery actually reaches the bottom of the pocket *all round the tooth*.

The same general rule as to the localization of streptococci would ap-

pear to apply to an exposed pulp. It is easily investigated, for if a tooth which has ached the previous night be found to have the exposed pulp still alive and bleeding on interference, and if it be thought desirable to extract it, the gum margin may be cauterized as just described and the tooth after extraction may be placed in 5% formal salt for four hours to fix the abscess in the coronal part of the pulp. After that the apical third of the root is cut off to allow the fixative to penetrate the pulp tissues completely and the tooth is replaced in the formalin. The preliminary fixation will prevent the organisms being sucked down into the pulp vessels by the manipulation of sawing off the apex. After thorough fixation and decalcification sections are cut and stained alternately with Gram's stain and with Haematoxylin and Eosin.

It will now be found that in this case, too, the streptococci are confined to the surface of the ulcer at the point of exposure or to the abscess cavity which sometimes fills up the cornu of the pulp chamber, provided, of course, that the exploring probe has not unduly disturbed the lesion and thrust the bacteria down into the deeper tissues, and providing also that the whole pulp has not been already destroyed by the infection.

The importance of cauterizing the gum before extracting the tooth in such an experiment cannot be over emphasized, for if Gram sections be made of even a non-carious tooth but one round which there was severe suppurative marginal gingivitis, without cauterizing the sulcus it will often be found that as a result of the marginal ulceration being disturbed and of the pumping action exerted on the periodontal vessels in the early phase of the extraction, streptococci may have travelled down the vessels of the periodontal membrane and up into the vessels of the pulp where they are easily discovered in the Gram sections,¹ (Fig. 2.)

It is, however, obvious that they could not have stayed there amongst



FIGURE 2.

Photo micrograph X 1294. Bacteria (cocci) in a capillary of the normal pulp of a non-carious tooth extracted owing to advanced pyorrhea *without* previous cauterization of the gum margin and pocket. The organisms were dislodged from the gum margin by the initial trauma of extraction (pumping action due to intentional 'waggling' of the loose tooth) and became arrested in the vessel at the moment of rupture of the apical vessels. (From a paper by Dr. I. H. Maclean and the author, Brit. Dent. J., 1936, 61, 336, by courtesy of the Editor.)

the red cells in the blood stream, had the tooth remained *in situ* and the circulation remained intact; but their presence is of absorbing interest as illustrating the ease with which organisms from the gum margin may be thrust into the blood stream. Nevertheless their presence under these circumstances does not alter the fact that the pulp was sterile before the extraction was carried out, indeed they serve to show how easily organisms can be detected histologically in Gram sections when they are present.

RELATION OF OBSERVATIONS TO DAILY PRACTICE

An attempt may now be made to relate these observations to daily practice. In the first place the distribution of organisms in the exposed pulp must determine the line of action to be taken in attempting to remove the pulp. If the contrary were true and the organisms were deeply implanted

throughout the pulp tissues, obviously the apical canals would be already infected and there would be little chance of disinfecting them. The treatment of a living, but exposed, pulp, would be as perilous and uncertain as the treatment of a completely necrotic pulp or a "septic root".

If, however, the organisms are confined to the abscess in the coronal part of the pulp when the case presents for treatment and if the root canals at that time contain only sterile tissue, it is possible, at least in theory, to keep it sterile. In practice, however, it is obvious that the first instrument to be passed down the canal will carry the infection down with it from the pus at the point of exposure into the root canals, and this is, no doubt, what regularly happens.

Stewart-Ross and Rogers have shown that the simple passage of a bristle in this way into an exposed pulp will cause a bacteraemia, proving that

bacteria are disseminated from the exposed pulp also by instrumentation.⁴ In recent years, therefore, we have tried the effect of giving the exposed pulp a heavy dose of the actual cautery before interfering with it and then passing a *hot* needle down it before any other interference is permitted. The introduction of a single cold instrument—an exploring bristle or anything of that kind will hopelessly infect the apex; but if the actual cautery be applied to the exposure as soon as local anaesthesia has been established and be repeated after any necessary opening up of the carious cavity in the crown, it is possible to pass a rather exaggerated edition of the electrically heated root-canal drier *slowly* down the canal with little risk of carrying infection down. If the canal be now filled with chloramine, sterile reamers may be used with impunity. If, however, it is not intended to insert a post into the canal, only the minimum of instrumentation should be carried out to ensure that all the pulp tissue is incinerated or removed. It has seemed unnecessary to be too concerned with the removal of this charred material and any unnecessary instrumentation might introduce chance organisms, though the lavish use of chloramine would render this danger remote. Nevertheless it is thought more important to seal up the canal as soon as possible than to run any risks by trying to ream out crooked canals and perhaps penetrate the apex, and results seem to bear this out.

Whatever be the practical approach, therefore, there would seem to be a great advantage to root canal therapy in the establishment of more accurate knowledge in the matter of the distribution of the infecting bacteria.

The same principle is not less important in the treatment of periodontal disease, for if the alveolar bone itself is infected it is no good healing the surface ulcers and extirpating the pockets and getting a firm, strong, keratinous attachment of gum to the tooth; but if the infection is localized to the

surface, except in cases of manifest periodontal abscess, the problem of treating periodontal disease is reduced to a perfectly straightforward one of causing the surface ulceration to heal and preventing its recurrence. Except in advanced cases it is simply one of efficient oral hygiene and even where gingivectomy is called for it is certainly not necessary to assault the alveolar bony crests—an operation which suggests the exhortation "Do not shoot the driver—he is doing his best."

Radiological interpretation, too, is very much simplified by a realization of the distribution of the bacteria. For instance, an unerupted wisdom tooth is always sterile until it comes into communication with the mouth. If, therefore, the tooth is horizontally impacted and cannot ever erupt and is so deeply placed that there is little risk of a pocket behind the second molar extending down to and infecting it, it is not necessary to interfere with the tooth, and for ten years the author has refused to do so without having reason to regret the decision.

Furthermore, the apices of all *living* teeth are sterile, and we have the great satisfaction of being able to give a positive opinion. Bone is uninfected unless there is an actual abscess cavity in it or an infected tooth fragment or a sequestrum with a sinus leading down to it. This means that when looking at skiagrams of teeth of any ordinary mouth (excluding such conditions as acute osteomyelitis with suppuration and necrosis) it may be said that unless there are dead teeth or periodontal abscesses there is no infection below the line of the epithelial attachment and in most cases what lies above this line can be treated.⁵

"Dry socket" is another closely related problem and in this case there is the implication of unfortunate terminology. It has been assumed that the trouble arises because the blood clot washes out of the socket and exposes the bone, and it is sometimes suggested that if the socket be made to fill with blood again all will be well. It seems likely though that the blood clot came

away because the surface bone was infected at the time of operation and therefore died, and that there will be no cure until the dead bone has come away too.

From what is now known of the dispersal of organisms into the blood vessels leading from the gum margin when a tooth is extracted, it seems reasonable to suppose that the trouble of dry socket is due to an injury of the bone at the time of extraction which trapped these organisms passing through the blood vessels supplying the bone at that precise and critical moment. In this way, instead of the streptococci, which are thrust into the blood vessels by the act of loosening up the tooth, being washed away in the blood stream to be destroyed in the spleen, they are localized by the trauma in the damaged vessels of the alveolar bone, so that not only is the bony wall of the socket deprived of its blood supply by any bruising it received but minute abscesses develop in it along the course of the occluded and infected vessel. Be this as it may, it is remarkable that if the gum margin be cauterized before a difficult extraction is attempted the danger of a dry socket is much reduced. Once a dry socket is established, surgical interference is liable to spread the infection further into the bone and could hardly be of any great help.

Finally there are the dangers of the bacteraemia itself to be considered. A bacteraemia must not be confused with a septicaemia. A bacteraemia or bacterial shower is a transitory affair. The organisms thrust into the blood stream by an act of trauma, in this case the extraction of the tooth, are soon destroyed. In septicaemia the bacteria are constantly present in the blood stream and multiply in some focus, such as a vegetation on the heart valve, from which the blood is constantly re-infected. Round Kirkpatrick and Hails⁶ have shown that a very large proportion of people with advanced pyorrhea get a bacteraemia every time they eat hard or tough food. The danger cannot, therefore, be very grave or dramatic and the

reason is that the reticulo-endothelial system is a very efficient mechanism. It is found that within ten minutes of a bacterial shower of this kind into the blood stream the blood has generally become sterile again and the organisms will be found in the phagocytic cells of the spleen and the Kupfer cells of the liver—well on their way to destruction.

The real danger seems to be that before the bacteria reach the liver or spleen they may lodge in some situation where they can conveniently multiply and establish themselves. If, for example, the subject receives a blow on the shin occluding a vessel in the bone at a moment when bacteria are in the blood passing along that vessel, an abscess or an osteomyelitis of the tibia may be set up.

Another potential danger, which does not seem to have been investigated at all, would appear to exist. If the blood-clots in the sinuses of the uterine wall which remain when the placenta is extruded should contain organisms, it may not happen that the leucocytes in this clotted blood will survive long enough to destroy the bacteria, and puerperal sepsis may become established. It must be remembered, however, that if infected fresh blood be incubated without first killing the leucocytes, one often fails to get any growth, and this circumstance may save a great many women with severe pyorrhea from puerperal sepsis. The nature of the infection in puerperal sepsis, however, suggests that the source of the bacteraemia may more often be the tonsil than the teeth.

Perhaps the most widely recognized danger of bacteraemia, occurs in children who are suffering from simple or rheumatic endocarditis—a disease from which in the ordinary way recovery is likely to take place. In this condition there are commonly small vegetations or masses of fibrin on the heart valves which might easily become infected producing a fatal malignant endocarditis if

there were organisms circulating in the blood stream.

The dental care of such children, if they have a septic mouth on admission, is somewhat anxious. It seems wiser to delay the extraction of teeth with infected apices until the child is better, if that be possible, since nothing can prevent the danger of a bacterial shower from an apical lesion though the administration of sulphonamide or penicillin before operation would reduce the danger and, of course, the gum margin should in any case be cauterized if extraction is considered necessary.

The danger of a bacteriaemia in these children being set up during mastication may be fought by tanning the ulcers at the gum margin with chromic acid daily, as is done in Vincent's ulceration, and by prescribing a soft diet and a peroxide mouthwash, prohibiting the tooth brush until the marginal ulceration has healed.

Gingivectomy is seldom necessary in children but in adults a few cases have been investigated bacteriologically and it was found that the operation was not attended by a bacteriaemia; if, however, the knife, having become blunted, were to pull on the tissue it seems likely that a bacteriaemia would occur. Certainly a periodontal abscess is occasionally caused by bacteria being thrust into the deeper tissues

during the operation of gingivectomy in a severe case of pyorrhea profunda.

It would, therefore, appear that there are very few aspects of practice which are not affected by a realization of the habits and distribution of the streptococcus and it would be difficult to conceive of any more valuable exercise for a senior student than that he should have to extract a vital tooth, from a case of pyorrhea, after cauterizing the gum margin to the bottom of the pocket, and then prove the root apex to be sterile by culture. Not only would the operation call for an exactitude of performance both as to surgical technique and bacteriological method which would impress him, but he could not fail to realize the vast implications of the experiment on almost every aspect of his practice.

REFERENCES

- (1) Fish, E. W., and Maclean, I. H., Brit. Dent. J., 1936, 61.336.
- (2) Okell, C. C., and Elliott, S. D., Lancet, 1935 (ii), 869.
- (3) Fish, E. W., J. Amer. Dent. A., 1939, 26, 691.
- (4) Stewart-Ross, W. and Rogers, K., Brit. Dent. J., 1943, 74, 253.
- (5) Fish, E. W., 1944 Parodontal Disease, Eyre and Spottiswoode Ltd., London.
- (6) Round, H., Kirkpatrick, H. J. R., and Hails, C. G., Proc. Roy. Soc. Med., 1936, 29, 1552.

Suppose we had pincers by means of which we could lay hold of atoms and place them, touching each other, on a sixpence. Let us lay these atomic bricks at the rate of one a second, and work unceasingly day and night—sixty seconds to the minute, sixty minutes to the hour, twenty-four hours to the day. It would take us 800 million centuries to cover the sixpence with one layer of atoms.—Professor Alan Ferguson, in a broadcast talk reported in the "Listener."

The most munificent fee ever received by any doctor was handed to the English physician Dimsdale by Catherine II of Russia. She summoned him to Russia to vaccinate her, and for his services paid him £9,000, plus £1,800 for travelling expenses. In addition she gave him her portrait, a Russian peerage, and a life-pension of £450 a year.—Aftenposten (Norway), per Medley.

Dentistry in a Comprehensive Health Service in Great Britain

(By a British Correspondent)

THE Government of Great Britain having made it quite clear, in the White Paper on a National Health Service, that it is their intention to institute a comprehensive scheme under which every man, woman and child in the country will be entitled to obtain, without payment of specific fees, full medical treatment, the question naturally arises as to the extent to which dental treatment will be included and under what conditions the profession will be expected to provide the service. This aspect of the general health problem is at present under examination by an Interdepartmental Committee, appointed by the Government, of which Lord Teviot is the Chairman. This committee consists of nineteen members, eleven of them dentists, the other members being Civil Servants, persons interested in health administration and one the Dean of a Medical School. It is, perhaps, noteworthy that the dental members of this committee were not directly nominated by the dental organizations but were selected individually by the responsible Ministers, so that their conclusions will be in no way binding on the professional organizations. The committee is not expected to issue its report until some time in the autumn and, in view of the complexity of the problem which it has to examine, it may well require an even longer time to reach its final conclusions. Any comment on the possible effect of the application to the dental profession of the principles on which it is suggested in the White Paper that the medical profession should be organized can, therefore, at this stage, only be tentative. Never-

theless, it seems reasonably certain that if the general plan of administration of general medical treatment put forward by the Government is ultimately adopted the arrangements for providing dental service will almost necessarily need to be fitted into the same framework with such adjustments as may be dictated by the special character of dental treatment. The dental profession in Great Britain is therefore keenly interested in the methods under which it is proposed that general medical practitioners should be employed and remunerated in the comprehensive health service. Here it is necessary to make it clear that the proposals in the White Paper under this head are put forward as a basis for discussion and are open to amendment after discussion with representatives of the profession and other interested bodies, provided that the comprehensiveness of the scheme is maintained.

THREE PRINCIPLES IN WHITE PAPER

The plan of the White Paper rests on three main principles: first, patients are to have free choice of doctor; second, doctors are to be free to enter the public service or not as they wish and thirdly, those who do so are to be free "to direct their clinical knowledge and personal skill for the benefit of their patients in the way which they feel to be best." There would be no compulsion on patients to use the service if they prefer to make their own arrangements to obtain treatment as private patients. General medical practitioners would be divided into three groups, those who devoted their whole time to pub-

lic service, those who remained entirely outside the scheme and those who gave part of their time to public work and the remainder to private practice. It will readily be understood that as everyone will be eligible for the benefits of the service and will pay for them both directly through the Insurance Scheme and indirectly through general and local taxation, the area of private practice will become progressively smaller as time goes on and it is easy to understand that this prospect is giving rise to a considerable amount of uneasiness among general medical practitioners. The doctors who engage in public practice are to be remunerated in two different ways. Those who work whole time in health centres or clinics it is proposed should be paid by salary, whilst those who remain in what is termed "separate practice" in their own premises will be paid on a capitation basis whether they devote the whole or only part of their time to public work. In either case their contract of service will be with a central body which it is proposed to set up—"The Central Medical Board"—and not with local authorities.

APPLICATION TO DENTISTRY

In considering the question as to whether these proposals could be applied to the dental profession two fundamental facts have to be faced. Firstly, up to the present the British public has not made anything like full use of the facilities for obtaining treatment which at present exist. For instance, the acceptance rate in the School Dental Service, taken as a whole, was but 63 per cent of those found to require treatment and only some 6 to 7 per cent of those eligible for dental benefit under the National Health Insurance Act apply for it in any one year. This latter figure cannot be taken as an exact index of the amount of dental treatment actually received by the insured section of the population since a number of insured persons still prefer to obtain treatment privately, but it is a sufficient

indication of the general lack of appreciation of the need for regular dental treatment. The second fact is that the number of dentists in Great Britain, although adequate to deal with the pre-war demand for treatment, would be hopelessly inadequate to undertake the task of rendering the nation dentally efficient.

That these two factors were present to the Government when they appointed the Interdepartmental Committee on Dentistry is evident from the first of the terms of reference to that body, which runs as follows:—

"To consider and report upon the progressive stages by which, having regard to the number of practising dentists, provision for an adequate and satisfactory dental service should be made available for the population."

It may be taken for granted that at present there is no prospect, or fear, of an all-embracing wholetime State Service replacing private practice in Great Britain. There are a number of dentists who advocate that course as the only satisfactory one, but they are in a decided minority and quite apart from the administrative difficulties which would be inseparable from such a drastic change it is almost unthinkable that the Government, whatever might be its political complexion, would embark on a course which would antagonize a majority of the profession and so have a depressing influence on the recruitment of students. A capitation system also seems to be out of the question since there is no sufficient body of data available on which it would be possible to calculate a rate that would be acceptable either to the Government or the profession, even presuming that payment on this basis was generally regarded with favour, which is far from being the case.

MEMORANDUM OF BRITISH DENTAL ASSOCIATION

A careful analysis of the possibilities suggests that the plan put for-

ward by the British Dental Association in the Memorandum submitted by it to the Interdepartmental Committee will form the basis on which dental services will be organized under a comprehensive health service. Under this plan those eligible to receive dental benefit would be divided into three classes, (1) The "priority" group, (2) adolescents passing out of the priority group and (3) the existing adult population. The priority group would include nursing and expectant mothers and children and adolescents up to the age of eighteen. These would be given complete treatment in clinics provided by the health authorities, staffed by salaried officers who would be in the main whole-timers, although possibly for some time a certain number of private practitioners would be employed on a part-time basis. The aim of this branch of the service would be to ensure that all school children were examined and treated at intervals of not more than six months and be given instruction in oral hygiene so that they would reach adult age with a full complement of sound teeth and imbued with a desire to maintain a proper standard of oral cleanliness. It is estimated that a complete service of this kind for the priority classes will acquire the services of something rather over than under 3,000 dentists working whole-time as against the 700-800 at present employed in the school service. It is easy to see, therefore, that it will be some years before this part of the scheme could be fully operative. The additional staff will have to be recruited for the most part from new entrants to the profession and the pre-war entry averaged something less than 400 per annum. However, like you in Canada, we are firmly convinced that the only sound way of overtaking the mass of untreated dental disease is to concentrate on the younger section of the population and gradually build up a dentally healthy population. The young adult, passing out of the "priority" classes with sound teeth, would be passed

to the care of a private practitioner, of his or her own choice, who would undertake to maintain the mouth in a sound condition in return for a capitation fee. Here it is to be noted that the capitation rate is only to apply to those with sound mouths as these are the only ones whose dental risks can be calculated with a sufficient degree of accuracy to make such a system feasible. With regard to the remainder of the adult population the B.D.A. proposal was that all those whose incomes were below the present insurance income limit of £420 per annum should be entitled to claim dental benefit on a scale of fees basis comparable to that under which dental treatment has been given as an Additional Benefit under the National Health Insurance Acts since 1922, but if the Government carry out their expressed intention of making the new health service available to the whole population it seems obvious that dental service must also be included, even although it is reasonably certain that a considerable proportion of those who have in the past made their own arrangements for treatment will continue to do so just as they make their own arrangements for the education of their children instead of sending them to the schools provided by the local education authorities.

EFFECT ON PRIVATE PRACTICE

At first, therefore, the introduction of the new system might not have much effect on private practice but it seems reasonably certain that as time went on an increasing number of citizens would make use of the public service and the area of unrestricted private practice would be correspondingly curtailed. What effect this gradual change over would have on the standard of dentistry in Great Britain would depend upon the degree of freedom accorded to the individual practitioner to carry out the kind of treatment which in his opinion is the best for the patient. This can never

be absolute: At present it is, only too often, limited by economic factors and the problem confronting the profession in Great Britain is how a comprehensive service can be organized so that it is increased rather than diminished. There are not and cannot be for many years to come, sufficient dentists available to make it possible to provide for the whole population conservative dental treatment of the kind which the wealthier classes of the community are accustomed to receive. It seems probable therefore that a temporary solution of the problem will have to be sought along the line of providing what might be defined as "necessary dentistry" under the health service and to leave both patients and dentists free to make their own arrangements for items of treatment which fell outside this definition. A simple instance will serve to illustrate the point—the service would provide an amalgam filling but if the dentist thought a gold inlay was desirable the patient would be free to pay any fee in excess of that allowed for the amalgam filling. Alternatively the patient could elect to pay the whole fee. The difficulty is a very real one and so far no solution that is likely to be completely satisfactory is in sight. It is easy therefore to understand the uneasiness of those who are concerned to maintain the clinical freedom of the dentist to do the best he can for his patient and a high standard of treatment. The right of the patient to make his own arrangements is indeed a temporary safeguard but the

profession in Great Britain will rightly demand something of a more permanent nature before it will be ready to agree to a scheme for providing dental service under a comprehensive health service on lines similar to those proposed in the White Paper for the organization of the general medical practitioner service.

CONCLUSIONS

Whatever scheme may finally emerge for the treatment of adults it can be safely assumed that a scheme for giving complete treatment to all young people up to the age of eighteen will be inaugurated in Great Britain in the immediate post-war period. Thus the first essential step will have been taken towards the attainment of the ideal of a dentally healthy nation. When this first stage has been successfully accomplished the difficulties of providing treatment of a high standard for the adult population, which now loom so large, will be easier to deal with but the interests of the public and the profession alike demand that dentists shall have the greatest possible amount of freedom to carry out their work in the way which they know to be best.

Our problem is different from yours in Canada since medical treatment under the Insurance Acts has set a precedent for the provision of a health service with which we have, almost inevitably, to conform. Our aims are, however, the same as yours and, as the Allies have shown, more roads than one lead to Rome.

We cannot let men and women die, or children grow up to weakness and disability, while we are waiting for a Utopia of economic reform to be ushered in.—Dr. Thomas Parran, Surgeon General.

*In hyperparathyroidism the calcium in the blood rises at the expense of the calcium in the bones, which show extensive areas of resorption. But the teeth take no part in this generalized resorption. The teeth may become loose because of the resorption of the alveolar bone, but the enamel and dentine remain unaffected. The evidence disproves such myths as "A tooth for every child" or "Calcium therapy will prevent tooth decay."—Isaac Schour, D.D.S., Ph.D., in *Dentistry a Digest of Practice*.*

Case History^{*}

Alopecia Areata Correction following the Removal of Impacted Teeth

by WILLIAM ROBB, D.D.S., Winnipeg, Manitoba

THE patient, a girl engaged in office work, 24 years of age, presented herself at my office on June 16, 1943, for the removal of two lower third molar horizontally impacted teeth.

The symptoms she complained of were headaches, neuralgia pains and nervous disorders. She had a complete absence of hair on the head, except for eyebrows and eyelashes which were normal. Negative Wasserman. There was no evidence of infection around the impacted teeth, but the thickening of the sheath would indicate pressure.

Removed lower left impacted third molar on June 18, 1943. About the middle of August patient noticed the hair beginning to grow again in patches and reported to my office.

January 6, 1944 removed lower right impacted third molar tooth. Hair on the head at that time was about $\frac{3}{4}$ inch long, of normal texture, and in patches the size of a dollar piece. These she said were gradually increasing in size and bald patches were being eliminated.

At present the growth of hair is increasing steadily and scarcely any bare spots remain. This new hair is 4-5 inches long. Patient claims a complete absence of head pains.

Patient insisted on giving me credit for this cure of Alopecia Areata. I was quite prepared to take the credit for the relief of her head pains because such reactions are quite common, but I was not at all sure that I should take the credit for the cure of Alopecia.

I mentioned the case to a group of

medical men, and one of your members later informed me that he had found literature in the library giving similar results following the removal of impacted teeth. I went through the literature there and submit the following findings which bears this out.

Mrs. Agnes Savill, M.A., M.D. wrote in 1876 a clinical study of the hair and scalp as follows:—

"Jacquet was the chief exponent of the casual influence of a source of reflex irritation; he regarded alopecia areata as only a symptom. Jacquet believed that in subjects affected with alopecia areata there was a general hypotony and a tendency to nervous equilibrium. In such individuals some reflex irritation, acting through the sympathetic nervous system either from an adjacent or a distant source, was the chief precipitating cause of the alopecia areata. Any source of reflex irritation could set in motion the symptoms of alopecia areata, but the most usual exciting cause, Jacquet believed, lay in the teeth. In a number of cases, extraction of troublesome wisdom teeth or of diseased teeth has been followed by a cure or arrest of alopecia; but in other cases no success has resulted from the correction of these errors. Whitfield and others have found success following the correction of eyestrain."

Jacquet in 1902 suggested the theory that alopecia areata occurs as a result of reflex irritation of a nerve root from defective teeth. I was not able to get this reference itself in the library, but Carroll S. Wright M.D. mentions it in his article "Archives

^{*} Presented before the Honorary Staff of the Winnipeg General Hospital, April 20, 1944.

Dermatology & Syphilology", vol. 19, p. 365.

He also states that the trophoneurotic theory was given its greatest stimulation through experiments of Joseph in 1886. He claimed that sectioning the posterior root of the second cervical nerve peripherally to the ganglion or the extirpation of the ganglion in cats or rabbits causes an alopecia similar to alopecia areata in man.

He observed that about seven days after the operation, coin-sized patches of baldness appeared on the back of the scalp and over the muscles of the ear. Joseph believed that the fall of hair was due solely to the severing of nerve nutrition to the areas.

These experiments were repeated by Mibelli in 1901, who partially substantiated Joseph's observations.

James D. Grace, D.D.S., Ann Arbor, Michigan, in "Archives Dermatology & Syphilology", volume 45, page 349, in 1942 gives the following report of a case.

"The patient an American born white man aged 29, was first seen by me on Dec. 22/36. At this time the scalp was entirely bald except for a preauricular vestige on each side. The eyebrows, eyelashes, and beard were missing, as was all the hair on the body except that of the pubic region.

"The patient stated that he had first

noted a gradual loss of hair of the scalp about 3½ years previously, at which time the hair of both the scalp and the beard commenced falling out in patches. He was seen by a dermatologist, who arranged for a complete physical examination and laboratory tests, the results of which were normal. At the onset of the disease, he was employed in a drug store, but not being a pharmacist, he handled no drugs and did not come in contact with mercury, arsenic, thallium, or other heavy metals. Roentgenograms of the teeth which had been made at that time revealed an impacted lower third molar tooth and an apical infection in another tooth. The removal of these two teeth was followed by a cessation of the alopecia and a regrowth of hair on the bald areas of the scalp in about six months."

These were the only cases I could find associating alopecia and impacted teeth. There are however, numerous articles in medical literature mentioning the presence of neuralgia pains and nervous disorders in cases of alopecia areata, and I suspect a good percentage of these may have been caused by impacted teeth.

There are, I know, many theories advanced as to the aetiology of alopecia areata. This case, which I have described to you, would appear to support the oldest of these.

Montreal Dental Club

Plans are now complete for the 20th Anniversary meeting of the Montreal Fall Clinic, which will be held in the Mount Royal Hotel on October 25, 26, and 27. Non-residents intending to attend the meeting are reminded of the necessity of making hotel reservations well in advance; and whenever possible, to share accommodation. For further information regarding the meeting, please communicate with the Chairman,

*M. L. Donigan, D.D.S.
1414 Drummond Street,
Montreal, Canada*

The Forum

FEAR NOT THE FUTURE OF DENTISTRY

by EDWARD J. RYAN, D.D.S.

Condensed from Oral Hygiene, July, 1944

THERE will be more government supervision of health activities rather than less.

It is safe to say that no health insurance plan will ever carry provisions for complete dental care, simply because all the contributors to such a project are potential beneficiaries.

Any national program for dental health will and should be built around the needs of the child. The mutilated mouths of adults are, for the most part, beyond dental salvation. We may further expect to see a federal program whereby dentists will be sent into communities where their skills are needed and where their number is not sufficient.

The entrance of the government into health conservation does not necessarily mean the destruction of the values of the private practice. The day is gone, however, when the members of the health professions can take advantage of the natural monopoly that they enjoy. If we make our services hard to get and prohibitive in cost, we may be certain of governmental regulation. The government does indeed mean business. The health care will be taken, in part, out of the domain of private choice and will become an affair for all society.

In the United States we have had compulsory school attendance but never compulsory health attention. I

believe it takes no gifted power of prophecy to say that our children of the future will be under three compulsions by the government: education, military service, and health care.

An increasingly articulate group of serious and clear thinkers within the profession believe that we must train auxiliary personnel to make our services available to more people. The training of dental assistants, dental hygienists, and laboratory technicians should be under the control of the dental profession and at university levels of education. The dentist needs all the well trained auxiliary help that he can secure.

The technician should not receive his training in some proprietary trade school but should receive a course of instruction in a dental college under the supervision of dentists. The laboratory industry should be more closely integrated with the dental profession through some national association organized for mutual helpfulness.

We may anticipate extensive programs of government-subsidized education in years ahead, particularly in critical fields such as dentistry and medicine. I am not one to deprecate a wide cultural training, but I do insist that dental education is intended to prepare men and women for the realities of dental life and of dental practice. Dentists must be excellent technicians and skilful operators, and

any program of training that deflects them from that course is an injustice to the student and to the public.

I would expect to see surpluses of social security funds spent on programs of public health education, research, and child care.

What of the thousands of dentists in military service—what will become of them? The majority will, of course, rush home as fast as they can to open offices at the earliest opportunity. But even these men will have tasted the security of a government income. They will be interested in the retirement pay, in sick leaves, in vacations with pay, and in the other advantages of government employment. Many dentists, if given the

opportunity, will accept the certainty of government employment rather than the uncertainties of private practice.

It is our responsibility to tell the American people what good and adequate health care includes. We must tell them exactly and truthfully what it will cost. We must emphasize that education, research and prevention directed particularly toward the child comprise the ideals toward which we reach. We must guard ourselves against narrow thinking. I earnestly believe that if in all our plans we first ask ourselves, "*Is this in the interest of the public?*" we will in turn receive the respect and the confidence of the people.

OBJECTIVES OF FULL DENTURE SERVICE

by JOHN B. LADUE, Chicago, Ill., U.S.A.

SUCCESS in any line of endeavour depends entirely upon our own efforts, and the degree of success is judged by the standards we set up to attain. If we are engaged in the practice of dentistry merely for the means of livelihood and our main idea is just to get by, a little thought along this line might be a good thing.

In a majority of practices full dentures occupy the place of a filler-in, just the something that helps to build up a mass of practice. Many men do a very creditable class of dentistry until it comes to denture work, which they shove through in a sloppy, careless way, putting the burden on the adaptability of the patient. If trouble results then denture work becomes a bugbear.

If we wish to practise the golden rule we will first try to learn to do a thing properly and then apply ourselves to the carrying out, in detail, of our teachings in every case. It has been said that "the things that we like least are those that we know least about." It naturally follows that unless we enjoy doing a thing it is rarely well done.

There is no patient who is more deserving of the best we can do than the edentulous patient. I know of no greater incentive, in the practise of dentistry, than to strive to build a set of dentures that will bring comfort, health and happiness to patients who have been so unfortunate as to lose all their teeth.

The three important results that we hope to obtain in denture construction are comfort, appearance and efficiency. Of these comfort of course is most important, for without it neither appearance nor efficiency are possible. It is impossible to look pleasant when one is in pain, and efficient mastication is not done when the act is painful. To a great many patients appearance is even more essential than is efficiency. While it sometimes is necessary to sacrifice one for the other, ordinarily it is possible to achieve results that are satisfying from both standpoints.

It is recognized that the final results depend greatly upon the cooperation that the patient gives the dentist. This cooperation for the major part depends upon the education of the patient by

the dentist. Every edentulous patient has ideas as to his or her ultimate success as a wearer of dentures. This is based on the experience his or her relatives or friends have had. The operator should be able to recognize the physical conditions that present themselves which tend to limit the result, and an explanation should be given the patient in terms that are understandable to the lay mind.

When we appreciate that the efficiency of the highest type of artificial dentures does not exceed forty per cent of that of natural dentures, we realize how easy it is to promise more than we can deliver. This is the one best bet to produce a dissatisfied patient. Always try to hold something in reserve so that you may have a chance to deliver more than is promised.

A fee should be charged that is commensurate with the services rendered. Things in general are apt to be appreciated in ratio to their cost. For instance, you often hear a man elucidate

the qualities of his expensive car but rarely those of a flivver. One of the most essential points from the business side of denture construction is to make sure that the dentures are paid for when delivered. When a complaint is made by a patient who has paid in full, you may rest assured that the kick is legitimate. Otherwise you will do considerable wondering.

As to the technical procedure of construction there are many ways of making dentures but all have practically the same basic principles. Some men prefer one technique and some another but close application to any one will bring you approximately to the same successful end. It is a series of details each of which is essential in itself. You must have some mechanical ability, some artistic ability, and the ability to judge human nature. It's the doing of the same thing all the time with variations, and he who handles his variations best has the greater success.—F. Review of Chi. D. Soc.

PULP REACTIONS TO DENTAL CEMENTS

by E. B. MANLEY, B.D.S., L.D.S.

(From the Research Department of the Birmingham Dental School)

Conclusions of paper in Dental Record, April, 1944

WHERE the liquid consists mainly of phosphoric acid dental cements are capable of producing severe localized reactions in the pulp within twenty-four hours. Reactions set up under zinc phosphate cements appear to be less intense than those resulting from either copper phosphate cements, silicate cements or certain cements purporting to have special germicidal properties. In the light of histological evidence it is clear that when using dental cements in their present form some modification of clinical procedure is indicated if the incidence of pulp involvement in any degree is to be prevented, especially in regard to the teeth of young subjects:

(a) Extension of the cavity involv-

ing the opening up of new and healthy tubules after removal of the carious dentine should be kept to a minimum.

(b) A thin smear of thickly mixed zinc oxidé and eugenol used as a sublining is sufficient to prevent pulp irritation from acid cement.

While dental cements are designed to give certain desirable physical properties, it must be recognized that such properties should be dependent on the biological factors involved in their use. It seems to me, therefore, that it is of first importance in the manufacture of these materials that due consideration should be given to the histopathology and the physiology of the dentine and pulp.

IS SUGAR NECESSARY?

by DR. MURIEL BELL, New Zealand, Nutritionist, Department of Health

ONE often hears it stated by doctors that children require sugar in their diet. It is necessary to examine the medical case for sugar for children. It is a known fact that children have a tendency to develop what is called "ketosis" if the proportions of fat relative to carbohydrate in the diet are too great. Apparently their bodies are less efficient than those of adults in oxidizing fatty acids to completeness. This is true whether the child has been eating too much fat in the diet or has been living on its own fat. An example of the latter instance is that if a child has been vomiting and has exhausted its stores of glucose in its own body, it then has to live on its store of body fat. The results are that the fats do not get completely oxidized and substances called "ketone bodies" circulate in too great an amount. A child may look dreadfully ill at this stage. The doctor is called in, gives it some sugar—sugar in any form—and there is miraculous improvement. A certain quite small proportion of children have a disordered metabolism in which this state of affairs occurs periodically, even apart from starvation through vomiting. When the doctor sees dramatic recovery in cases of these two types it is easy to make the exaggerated generalisation that children need sugar. The doctor sees children when they are in an abnormal state and is apt to make deductions from the abnormal states—deductions which he applies to the normal.

As long as a child has a store of glycogen, this disordered state is not likely to occur. The abnormal state is an emergency and has to be treated differently from the normal state. The normal child is quite capable of digesting starch in cereal, lactose in milk, cane-sugar in carrots, apples and other foods of the vegetable kingdom, and all of these things will assist in providing it with a store of glycogen. Even some of the protein of the food is similarly

converted to glucose and stored as glycogen. One might even go as far as to say that there is no real need for sugar at all, providing that the diet is kept balanced as far as its fat content is concerned relative to the amount of carbohydrate and protein. However, one would not go as far as to exclude sugars from the diet altogether. They have their uses in making valuable foods palatable or in acting as a preservative for such things as fruit. But when one makes this concession, one wishes to add that it is necessary to practise restraint in the use of sugar even for these latter purposes.

The underlying idea of taking sugar before any muscular effort is that muscles derive their energy from glycogen. If they run short of it during any muscular exertion they work less efficiently, because they have to convert fat to glucose, which is not such an easy performance and is more likely to be attended by fatigue.

But there is another side to this picture. In order to burn glycogen effectively in the muscles you need several vitamins, notably vitamin B₁. If you have not enough of this vitamin stored in your tissues, pyruvic acid accumulates and leads to fatigue.

Now, sugar is entirely devoid of vitamin B₁. This applies even to treacle. Thus sugar runs us into debt as far as vitamin stores are concerned. It is not easy to make it up again unless you consciously choose the foods that are rich in it. I have used the illustration of vitamin B₁, but the same argument applies to other vitamins of the B complex and probably also to vitamin C.

To get back to children, let me quote from a children's specialist who was chosen to write an authoritative article in a series in the *Journal of the American Medical Association* of recent date (1942). Jean says: "Much circumstantial evidence exists in recent literature to the effect that vitamin B₁ probably

is obtained by many children in amounts less than those considered appropriate or optimum. It is clear that the remedy for this situation to the extent that it exists, lies in a better selection of dietary components rather than the giving of special preparations of vitamin B₁. In general, refined cereals are to be avoided." Much ado has been made over the increasing consumption of refined sugar, some believing that it is harmful *per se*, but all agreeing that it is too likely to replace foods nutritionally valuable. One way in which it does replace foods that are nutritionally valuable is that it takes away appetite. The way in which it does this in children has been studied recently by x-ray photographs. It can be seen in these photographs that the size of the stomach of children increases rapidly after a meal containing sugar and remains large for quite a long period of time. This is due to the fact that sugar taken into the stomach causes a condition of osmosis. Fluid pours into the stomach to break down the strong sugar solution. These results explain the sense of fullness followed by the cessation of hunger contractions and therefore a submerging of appetite which follows the consumption of sweets at any time. This effect may last one to one and a half hours even with small concentration of sugar. The greater the number of sweets, the longer the effect lasts. This only puts into scientific terms what we all know, that the ingestion of cakes and sweets between meals takes away the child's appetite for other necessary foods."

In commenting recently on the trend of consumption of sugar in the United States of America, the Council on Foods and Nutrition stressed the point that "when deficiency exists in the supply of vitamin B₁, the oxidation of sugar is impeded to such a degree that products of its incomplete oxidation can readily be demonstrated in the blood. If the tissues possess ample reserves of vitamins no harm is done by ingesting car-

bohydrate, but since sugar makes no contribution to such reserves, the vitamins required must come from other food. It follows, therefore, that when the vitamin-poor constituents of a diet sufficiently outweigh the vitamin-providing constituents, a situation is created from which deficiency disease will logically result."

"The Council believes it would be in the interests of the public health for all practical means to be taken to limit consumption of sugar in any form in which it fails to be combined with significant proportions of other foods of high nutritive quality."

Now to quote another authority (Macy), who has done an interesting experiment in a research laboratory of which she is director in Michigan. Commenting on the relation of sugar intake in children to dental caries, she says: "If a dietary is adequate in quantity and quality of all nutriment, the healthy child will not have an abnormal craving for sweets, especially sugar. This fact is substantiated by our observation of the free choice of sugar by healthy children over the past ten years. As a diet is carefully adjusted to meet the particular needs of an individual child, the healthy child voluntarily reduces his sugar consumption as his bodily requirements are more perfectly met through a better balanced diet of natural foods. We have permitted freedom in sugar intake among our experimental subjects and have recorded in 519 observations over 2,595 days, 29 children voluntarily chose about 10 grammes, or one-third of an ounce, on the average, of refined sugar daily."

It will be realized that milk, by virtue of its provision of so many of the factors required for good nutrition—*viz.*, protein, calcium, vitamin B₁, riboflavin, as well as calories—made a satisfactory addition which reduced the intake of sugar.—*New Zealand School Dental Service Gazette*.—*per S. African D. Jour.*



Editor: M. H. GARVIN, Winnipeg
Assistant Editor: T. R. MARSHALL, Toronto

Associate Editors:

PRINCE EDWARD ISLAND:

D. T. Waye, Charlottetown

NOVA SCOTIA:

S. G. Ritchie, Halifax

NEW BRUNSWICK:

W. C. Carruthers, Saint John

QUEBEC:

E. M. Laurin, Montreal

ONTARIO:

T. R. Marshall, Toronto

MANITOBA:

J. F. Morrison, Winnipeg

SASKATCHEWAN:

F. C. Harwood, Moose Jaw

ALBERTA:

John Clay, Calgary

BRITISH COLUMBIA:

H. M. Cline, Vancouver

Horace Wells Centennial

History is replete with the efforts of man to discover some remedy which would give a surcease from pain. In 1776 Joseph Priestly of England discovered oxygen and made nitrous oxide or laughing gas as it was called, although he had no idea that it would prove valuable as an anaesthetic agent. In 1800 Sir Humphrey Davy suggested to the medical profession that nitrous oxide might be valuable in the alleviation of pain but the idea was frowned upon. From time to time other men almost hit upon this great scientific fact. In 1844, on December 11 Horace Wells, the twenty-six year old dentist of Hartford, Connecticut, after witnessing the effect of nitrous oxide upon certain people at an entertainment staged by a lecturer on chemical phenomena, went back to his office and had a friend extract a tooth for him under nitrous oxide gas and without pain. The era of painless surgery had been inaugurated; one of the greatest and most wonderful of modern blessings.

In 1847 the Legislature of the state of Connecticut, after investigating the facts surrounding the discovery of anaesthesia, sponsored the erection of a monument on the State House grounds dedicated to Horace Wells.

On December 11 of this year the American Dental Association will celebrate the one hundredth anniversary of the discovery of anaesthesia at Hartford, and there will also be held nation-wide meetings. Committees have been appointed in each state and all state societies have been requested



HORACE WELLS

to dedicate their 1944 annual meetings to Horace Wells, the discoverer of anaesthesia.

Because modern anaesthesia was given to the world one hundred years ago next December, because nitrous oxide gas became the forerunner of all other general anaesthetics, since that time and because the discoverer was a dentist it is fitting that dentists in every land should do him honour. Furthermore we shall bring honour to our profession by honouring one of its members.

The dentists of Canada through the Canadian Dental Association have been invited to cooperate with the dentists of the United States in recognizing this great benefactor of mankind. It might be suggested that, where possible, local dental societies in Canada give a special place to this matter at their December meetings, arranging for at least one paper on "Anaesthesia" and also plan that the story of Wells and the history of anaesthesia be presented, and, that a radio broadcast be arranged where possible. We would further urge all dentists to inform their patients that a hundred years ago a dentist gave anaesthesia to a waiting world in order that the part Horace Wells played in the discovery of anaesthesia shall

become better known. Also where possible articles should be prepared for newspaper publication.

It is said that a scientist is one who has the simplicity to wonder, the ability to question, the power to generalize and the capacity to apply. By such a standard Horace Wells was a scientist, an honour to the dental profession and a blessing to mankind.

M. H. G.

BOOK REVIEW

Parodontal Disease by E. Wilfred Fish, M.D., Ch.B., L.D.S. (Manch.), D.D.Sc. (Melb.), D.Sc. (Lond.); Dental Surgeon St. Mary's Hospital, London; Late Dental Surgeon, Royal Dental Hospital, London; Late Examiner in Dental Surgery and Pathology, University of Manchester; Hon. Research Associate in Physiology, University College, London. 186 pages. 72 illustrations. Published by Eyre and Spottiswoode Ltd., 14 Bedford Street, London, W.C.2. Price 18s. Net.

This is a book which every dentist should not only read but should study as it not only deals with a subject of paramount importance in the practice of dentistry but it is written in such a practical way that it is hard to conceive how anyone could peruse it and not find therein something of real practical value.

In a personal letter received a few weeks ago from one of Britain's recognized dental leaders, he had this to say about the author of this book: "Dr. Fish is undoubtedly the first brain in British Dentistry and presents that very rare combination of high academic distinction, a research outlook, and a very capable pair of hands." This is another reason why this book should be read.

The book is written as by a capable teacher to a student class. It is explicit and is apparently written by one who practises exactly what he preaches. One is convinced that Dr. Fish gets results by his methods in his own practice. It is not a piece of theorizing by someone who is not distinguished in the practical field.

Dr. Fish points out that the first thing to make clear to the patient is that the soft diet of civilized man does not provide sufficient friction to keep the gum margins

healthy and that a special effort should be made to encourage young people who are notoriously intolerant* of discipline and prodigal of nature's gifts to institute an artificial application of friction to the gums in order to avoid periodontal disease later on.

In the treatment of all forms of periodontal disease the author follows the well established principles of first eliminating infection and then keeping the tissues healthy by stimulation. His methods are different to those used by many periodontists in this country but his results are unquestionably excellent. There is more than one road leading to Rome as has been proven in this war.

Dr. Fish would abandon very hard tooth brushes and use in place very soft ones and contends that once the wood-point habit of friction or stimulation is established, that there is no need for special methods of brushing or for a special brush to get between the teeth.

This reviewer has had unusual pleasure and profit in reading this book and can commend it with enthusiasm.

M.H.G.

Accepted Dental Remedies. Tenth Edition.

Prepared by the Council on Dental Therapeutics of the American Dental Association and published by that Association in 1944. Price \$1.00.

The book contains a list of official drugs selected to promote a rational dental materia medica and descriptions of acceptable non-official products. Approximately 600 dental products have been currently accepted and are described. Improvements have been made

in the typography and the Formula Section will be found useful to those who wish to write prescriptions or who wish to ask the druggist to prepare some chemical mixtures. The description of the various vitamins states

this Council's opinion of these interesting products.

The tenth edition of Accepted Dental Remedies should be in every dental library.
M.H.G.

NEWS FROM THE PROVINCES

ALBERTA:

Edmonton Dental Society

This Society held its third monthly golf meet and dinner for 1944 on August 17 at Mayfair Golf Club. The weather was excellent, scores were good and a large number were present at the dinner following. Dr. Lipsey was in the chair.

Varsity Post-War Building is Estimated at \$2,000,000

Land is being surveyed and plans actively being made for a start on an estimated \$2,000,000 building program as soon as the war is over. The student population has more than doubled since 1921 and the need for buildings is desperate.

Three buildings are on the list for construction before any others: namely, the first unit of a library building, an east wing to the present medical building, and a new dental school.

MANITOBA:

Son of Dr. Dow Honoured

Air force headquarters announced on August 14 the award of D.F.C. to Flight Lieutenant J. R. Dow, son of Dr. James A. Dow of Winnipeg.

This award was covered by a joint citation saying that he and four others completed in various capacities, many successful operations against the enemy in which they had displayed "high skill, fortitude and devotion to duty"

We would sincerely congratulate Dr. and Mrs. Dow upon this great achievement by their only son.

ONTARIO:

Dental Laboratories Association of Ontario

The newly-formed Dental Laboratories Association of Ontario met at the Royal York Hotel, Toronto, May 27-28. Twenty-five members

from the Montreal Study Club of Dental Technicians Incorporated were present, also seventy members of the Ontario group from nearby and distant towns and cities. The membership of the Toronto Study Club of Dental Technicians registered as a body.

Mr. G. C. Stevenson of Montreal gave a clinic on the subject "Preservation of Foundation." Part 1—Necessity of proper tooth guidance in partial denture construction. Part 2—Technical aspects of the immediate denture service.

Some 130 members and guests gathered for the first banquet presided over by the President, Mr. Charles Spence. Among the guests present, were Dean A. D. A. Mason of the Faculty of Dentistry; Dr. J. H. Duff, President of the Ontario Dental Association; Dr. E. A. Grant, Secretary of the Dental Laboratories Association of Ontario; Dr. D. W. Gullett, Secretary of the Canadian Dental Association; Mr. A. A. McDonald, K.C., representative of the Dental Trades Association; and a very good representation of the Montreal Study Club of Dental Technicians Incorporated. Dean Mason spoke of the cordial relationship of the dental profession and the dental laboratory industry in recent years. Mr. E. A. Bulley of Montreal, spoke on the "Dental Technician, Master Craftsman, and Scientist."

A certificate making the secretary, Mr. D. Rollaston, an honorary member of the Montreal Study Club of Dental Technicians Incorporated, was presented to him by the President, Mr. Therrien, in recognition of his valuable time and efforts so generously given by him in the interest of his fellow dental technicians.

The following are the newly elected officers and executive of the Dental Laboratories Association of Ontario:

President—C. Spence, Toronto

Vice-President—W. Taylor, Oshawa

Secretary—D. Rollaston, Toronto

Treasurer—J. Tebbutt, Toronto

Executive: C. L. Daly, Toronto; C. Elliott,

Hamilton; H. Posen, Toronto; E. Pow, Woodstock; J. Price, Toronto; W. Walker, Toronto.

Faulty Gauges in Anaesthesia Cause Death

On August 11, a jury found that a faulty gauge in a nitrous-oxide-oxygen machine caused the death of a patient in the office of a Toronto dentist.

The jury found that the gauge showed a false supply of oxygen to the patient and that the death was accidental. The jury recommended that a periodical inspection of apparatus of this type be made by a qualified technician.

Northern Ontario Dental Convention Held in North Bay

The Northern Ontario Dental Association again chose Labor Day week-end for their fourth annual convention. Typical of the North, they believe in doing things and getting it over with. Their one day's program could be described as "Informative and Informal". This happy combination enabled all to spend an instructive and enjoyable day, in "The Gateway to the North".

Mr. Hall of Philadelphia gave a most interesting paper on Acrylic Resins. Dr. George Morgan of Toronto flavoured and seasoned his excellent technical presentation with so many helpful everyday suggestions, that all were glad they had come.

The luncheon speaker was Dr. Perc. Lowery, Chairman of the Ontario Dental Public Health Committee, and at the moment of writing have not heard of anyone having gone to sleep.

Dr. Stewart A. MacGregor, of Toronto, added the proper climax by his masterful presentation of "Dentistry for Children". "Sandy" was in rare form, and his listeners were treated to an inspiring presentation.

The President's banquet in the evening continued, what could properly be called a family day, in the same informal and pleasant manner. The head table was graced by the presence of Mr. Stones, Mayor of North Bay and Mrs. Stones, and Col. D. S. Coons representing Brigadier F. M. Lott, director of the Canadian Dental Corps.

They responded to roll call with short, snappy speeches. Other addresses of the evening were taken care of by Dr. Vince Keenan of Sudbury, and highlighted a real day.

Dr. A. H. Hudson as president, Dr. R. A. Torrance as vice president and Dr. J. A. Martin as secretary are all due a real vote of appreciation. They did a swell job and dentistry appreciates their effort.

To the new officers for 1944-45: president, Dr. Guy Mahaffy of Copper Cliff, vice-pres., Dr. F. C. Fraser of Sudbury, and sec.-treas., Dr. W. R. Foster of North Bay, we say good luck and all success. And to Dr. Keenan the newly appointed representative to the Dental Public Health Council of Ontario we wish an active year. May the fifth Annual Convention of our northern dentists be bigger and better than ever.

R. P. L.

Faculty of Dentistry, U. of T. Announces Post-Graduate Courses

Two post-graduate courses are to be given during the Session 1944-1946 in the Faculty of Dentistry, University of Toronto in the subjects of "Dentistry for Children" and "Dental Surgery and Anaesthesia". If it is deemed advisable, a third course in the subject of "Periodontology" may be arranged.

Dentistry for Children

For those especially interested in dentistry for children, a three-day didactic course continuing from Monday, February 26th, to Wednesday, February 28th, 1945, inclusive, has been arranged with provision for a series of correlated lectures and essential table demonstrations.

Included in the staff of lecturers and demonstrators are: Miss D. F. J. Berry, M.A., C. A. Corrigan, D.S.O., D.D.S., M. A. Cox, M.B., R. G. Ellis, D.D.S., M.Sc. (Dent), J. H. Johnson, D.D.S., and S. A. MacGregor, D.D.S.

Arrangements are also being made to include in the teaching personnel of this Course, a dentist from outside the Province of Ontario, who holds a position of high distinction in the field of dentistry for children.

The fee for this course is \$10.00, payable at time of registration.

Those who contemplate taking this instruction are requested to make application at the Secretary's Office, 230 College Street, Toronto 2B, as early as possible so that adequate accommodation may be provided.

The following references are suggested as preliminary reading for those taking the course:

Easlick, K. A.—Management of Pulp Exposure in the Mixed Dentition.

J.A.D.A. 30: 179-187; Feb. 1943.

Seltzer & Werther—Conservative Silver Nitrate Treatment of Borderline Cases.

J.A.D.A. 28: 1586-1594; Oct. 1941.

Brauer, Higley & Boyd—Dentistry for Children: 1939.

P. Blakiston's Son & Co., Inc., Philadelphia.

McBride, W. C.—Juvenile Dentistry
Third Edition, 1941.

Lea & Febiger, Philadelphia.

Dental Surgery and Anaesthesia

A six-day course in the subject of "Dental Surgery and Anaesthesia" will be given continuing from Monday, April 16th, to Saturday, April 21st, 1945, inclusive, and will comprise both didactic and clinical instruction. Special attention will be given the subject of general anaesthesia with nitrous oxide and the use of local anaesthesia in exodontia.

A tentative list of the teaching staff for the course includes: F. E. Risdon, M.B., D.D.S., F.R.C.S.(C), E. W. Paul, D.D.S., G. C. Cameron, M.D., F.R.C.P.(C), A. W. Ham, M.B., J. H. Johnson, D.D.S., and S. M. Richardson, D.D.S.

The fee for this course is \$25.00 payable at time of registration.

The following references are suggested as preliminary reading for those taking the course:

Blair and Ivy—Essentials of Oral Surgery.

McIntosh and Bannister—Essentials of General

Anaesthesia, Third Edition.

Durbeck, W. E.—The Impacted Lower Third Molar.

Nevin and Puterbaugh—Conduction, Infiltration and General Anaesthesia in Dentistry.
Simpson, C. O.—Advanced Radiodontic Interpretation.

Barnhill, J. F.—Surgical Anatomy of the Head and Neck.

Periodontology

Should a sufficient number of applications be received, arrangements will be made to give a course of instruction in the subject of "Periodontology", particulars of which, when and if completed, will be published in the dental journals.

QUEBEC:

Dean of Dental Faculty Retires

On July 1, Dean Eudore Dubeau retired after completing 40 years as Dean of the Faculty of Dentistry of the University of Montreal.

Being the founder of this Faculty when 27 years of age, Dr. Dubeau was appointed for life. However, he has retired while enjoying perfect health in order to give further opportunities to the younger generation.

On the occasion of his retirement, the University granted him the degree "*Honoris Causa*".

Dr. Dubeau expects to continue his active association with the dental profession even though he has resigned from the deanship of the Faculty.

EMPIRE NEWS

GREAT BRITAIN:

Oral Hygiene Clinic in Leicester Royal Infirmary

Oral Hygiene is the dental aspect of preventive medicine. The above mentioned Clinic, which is the first to be opened in any Hospital, General or Special, in Great Britain, has for its purpose the prevention of dental disease and the co-ordination of the complementary functions of medicine and dentistry. Recent international scientific research in which Dr. Fish, an Englishman, has played a leading part, has made possible the prevention and arrest of periodontal disease (pyorrhea), and the diminution of dental caries, in many cases. Although the primary object of the Clinic is prevention, much of the work during war-time

is devoted to the treatment of gum disease, particularly Vincent's infection.

EDITOR'S NOTE: *The above is taken from the Annual Report of the Leicester Royal Infirmary which is one of the largest voluntary hospitals outside London. Dr. A. E. Rowlett who conducts an Oral Hygiene and Prophylactic Clinic at this centre three mornings a week, reports that the effect of this Clinic upon the status of dentistry throughout the whole of the Infirmary is perfectly astounding; that this Board of Governors, the Medical and Surgical Staff, especially the pathologists and radiologists, and the entire nursing staff are becoming dentally-health-minded and collaborate in every possible way.*

The Dentists' Provident Society

This year's landmark in the history of the Dentists' Provident Society is that the number of members now exceeds two thousand.

Over £9,000 was paid to fourteen members who retired on reaching the age limit of 65. This substantial sum represented the accumulated savings, plus interest, from the com-

paratively small regular contributions of these members over a number of years, during which they had had, in addition, substantial cover against sickness and accidents. The remarkable success of the Society is very largely due to the careful administration of its finances and the exceedingly low costs of management, which last year touched a new low record of 3.1 per cent. of the subscription income.

GENERAL NEWS

C.D.A. Delegates Meeting

Unless an emergency arises, the next meeting of the Board of Delegates of the Canadian Dental Association will be held in Winnipeg, in the spring of 1945 at the time of the meeting of the Western Canada Dental Society.

Dr. Gullett Honoured

We would congratulate our C.D.A. Secretary, Dr. Don W. Gullett, upon the honour conferred upon him by the American College of Dentists, of being granted a Fellowship in that organization.

U.S.A. Congress Terminates Plan for Relocating Dentists

The program for relocation of physicians and dentists, which became operative December 23, 1943, and was designed to place physicians and dentists in communities where they were particularly needed, has been discontinued by Congress, effective June 30, 1944.

Sulphonamides—Cautions

(1) Use sulphonamides only when necessary. *Local* or oral administration may sensitize the patient. Thus the patient might be denied the beneficial effect of the drug in a later serious illness.*

(2) Use sterile drugs and sterile technique insofar as possible.

(3) Internal use calls for special precautions. Orally administered sulphonamides have been known to seriously alter the normal constituents of the blood.

*J.A.M.A. 123:411, Oct. 16, 1943.

Sulphonamides—Uses

Rational use of sulphonamides in dentistry is limited to

(1) Local application after extraction or surgery only when excessive tissue injury or gross infection is believed to be present. Sulphanilamide or sulphathiazole powder, or a paste made by mixing a small amount of the powder with glycerine on a slab, may be used.*

(2) Internal administration to persons with certain cardiac defects before extraction, to prevent bacterial endocarditis.**

*A.D.R. 10th edition, p. 251.

**J.A.D.A. 30: 1829, Dec. 1, 1943.

—*Council on Dental Therapeutics of the A.D.A.*

A.D.A. Meeting Transferred to Chicago

It has been announced that the American Dental Association meeting which was to have been held in Omaha will be held in the Stevens Hotel, Chicago, October 16-18.

Wilmot Castle Company Honoured

On June 22, before a large assemblage of Wilmot Castle Company employees and friends which filled Cutler Union on the University of Rochester Campus, the coveted Army-Navy "E" was awarded to the company.

Lieutenant Colonel Hubert T. Marshall, Commanding Officer of the Army Medical Purchasing Office, New York City, presented the "E" Pennant to Wilmot V. Castle, President of the Rochester company. In the citation much emphasis was placed on the part that Wilmot Castle Company has played in making sterilizers and operating lamps for use in the armed services throughout the world.

Army Causes New Crisis in Dental Personnel in U.S.A. by Terminating Dental Specialized Training Program

The Army Specialized Training Program for dental students in the U.S.A. will be terminated at the end of the current semester except for those students in their senior year, who will be allowed to finish the course and on graduation will be commissioned. This action was taken by the War Department August 1 because "the Army's requirements for dentists are now filled." Undergraduate dental students and predental students who complete their training this semester will be given the option of discharge or assignment to the Medical Department. All other predental students will be assigned to the Medical Department as enlisted men at the end of the current term.

National Vitamin Foundation Being Organized in U.S.A.

Fifty representatives of all sections of the vitamin industry met recently in New York and approved the organization of a National Vitamin Foundation. Its objectives would be to award grants for research in the vitamins or related fields, the dissemination of information to the vitamin trade, medical profession and public with respect to the quality, purpose

and uses of vitamins, adoption of terminology and standards of publicity practices in connection with the sale of vitamins, and to confer and consult with medical societies, medical schools, health organizations, public health agencies and governmental agencies with respect to vitamins and the vitamin industry. —*F. Review of Chi. D. Soc.*

Artificial Eyes Made by Dental Officers

A method of fabricating artificial eyes in synthetic resin has been accomplished as a result of research being jointly conducted by the Eye-Ear-Nose and Throat Clinic and Dental Clinic in one of the general hospitals in England. The objective of the research was to reduce the actual time between the fitting of the patient for a prosthesis and the delivery of the eye to the patient for use.

A two week's course in the making of these artificial eyes was instituted in the general hospital in England to train additional dental officers of the United States Army as well as some of the British dental officers. The course will continue until each general hospital has at least one dental officer trained to produce an excellent artificial eye. Some thirty dental officers had completed this course up to April 1, 1944.

IN MEMORIAM

Stafford Shannon of Lindsay, Ontario, died August 17, following injuries received in an automobile-truck collision while proceeding to his summer cottage at Rosedale.

Dr. Stone is survived by his widow, a son, and a daughter.

Ralph Emerson Stone of Sault Ste. Marie, Ontario, died August 1.

He was graduated from the Royal College of Dental Surgeons of Ontario in 1911. During the first Great War he served overseas with the Canadian Army Dental Corps. After the war he was officer commanding of the Sault Ste. Marie regiment for four years, with the rank of lieutenant-colonel.

He was Registrar of the Supreme Court, Sheriff and Treasurer of the District of Algoma.

Francis Patrick Hinds of Orillia, Ontario, aged 57, died July 28.

He was graduated from the Faculty of Dentistry, University of Toronto, and practised in Toronto for a short time prior to moving to Orillia.

He was a veteran of the first World War, serving overseas in the Dental Corps. He was a member of the Church of the Guardian Angel, the Knights of Columbus and the Holy Name Society.

Dr. Hinds was unmarried and is survived by two brothers.

. . . SECTION FRANÇAISE . . .

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenant, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Venne, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAUDEAU, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

Examen Pratique des Silicates

par JOSEPH W. ROUSH, D.D.S. (Traduction, Alcide Thibaudeau, D.D.S.)

Ce n'est pas facile de faire une vraiment bonne obturation en silicate. Il y a tellement de variante dans ce procédé que pour atteindre l'idéal il faut être maître d'une technique définie et facile. Différentes marques de silicate ont des propriétés qui requièrent une manipulation propre. C'est pourquoi c'est désastreux pour la technique de passer comme font certains dentistes d'une marque à une autre. Par exemple un ciment à prise rapide bouscule un opérateur habitué à une substance à prise lente. De même un opérateur habitué à un silicate rapide enlèvera la bande de cellulose trop tôt. Il y a un certain automatisme dans la manipulation de certains matériaux, par répétition on acquiert une familiarité qui contribue à la souplesse d'une technique, c'est essentiel à un bon travail en silicate.

Etat Colloïdal Des Silicates

On doit distinguer clairement l'état colloïdal de l'état cristallin. Une substance cristalline se compose de cristaux qui se forment au moment où elle passe de l'état liquide à l'état solide. Quand l'eau gèle elle forme des cristaux. Le quartz est un cristal bien connu comme l'est d'ailleurs la cristallisation des métaux. Le phosphate de zinc communément appelé "ciment pour ponts et couronnes" cristallise en séchant. Les colloïdes de leur côté ne sont pas cristallin, mais amorphe de leur nature. Les celluloses, le caoutchouc, les glues, les pâtes colles, les résines, les vernis, shellac, et les argiles sont des substances colloïdales communes. Puisque les colloïdes et leurs dérivés sont très nombreux et leur emploi dans les arts et les industries si fréquent la chimie des colloïdaux est devenue un champ spécial d'exploitation.

Les ciments de silicate, une fois durcis sont pratiquement de purs colloïdes et peuvent être considérés comme non cristallins, ce sont des gelées. Certains colloïdes, comme l'asphalte deviennent fluides en les chauffant et par refroidissement redeviennent durs, ce sont des colloïdes réversibles. D'autres qu'on dit irréversibles une fois durcis ne peuvent plus retourner à l'état fluide. Les silicates sont irréversibles, une fois divisés par déshydratation il n'y a plus de réunion possible des particules.

Structure De La Gelée De Silicate

Quand on fait le mélange de la poudre et du liquide, l'acide phosphorique dissout la poussière la plus fine de la poudre et n'attaque que l'extérieur des plus grosses. Cette partie de la poudre ainsi attaquée par l'acide forme ce qu'on appelle la matrice. L'obtuteur se trouve donc composé de la matrice et des particules non attaquées qui y sont incorporées. La matrice représente de 20 à 30% de l'obturation. Elle est toute percée de trous ou de cellules remplies d'eau. C'est la partie faible de l'obturation. Si cette humidité s'évapore, la matrice le fendille et ressemble à de la colle à papier séchée.

La matrice est beaucoup plus faible pendant la première période de séchage et ne se brisera pas à ce moment mais elle s'affaiblira davantage au contact d'humidité comme la salive. La phase probablement la plus importante de la préparation d'un silicate est l'humidité dès le début de l'opération.

Contraction

La contraction des silicates qui s'opère dans la matrice est relative à la consistance plus ou moins grande du mélange. Si l'on fait un mélange trop liquide, une plus grande partie de l'obturation sera de la substance matrice (liant) et par conséquent plus poreuse et plus friable. La surface granuleuse se colorera et l'obturation trop faible sera désagrégée et lavée. Donc les mélanges trop pauvres produiront des obturations plus contractiles de mauvaise apparence et de désintégration plus rapide. La règle est de faire un mélange aussi épais que possible tout en conservant sa plasticité. En pratique la contraction des silicates est négligeable quand la cavité est bien préparée et la technique bien suivie.

Irritation De La Pulpe

Sous un silicate l'irritation de la pulpe peut être due aux différentes causes suivantes:

1—Irritation par l'acide. Un silicate prend dans son humidité, pour ainsi dire, et exhale encore une humidité acide pendant 24 heures. Une dent déjà irritée par la carie et l'acidité de ses débris ne peut supporter l'irritation supplémentaire d'un silicate, surtout si la cavité est profonde. Une préparation trop claire aggravera les conditions la protection de l'obturation qui doit l'empêcher de sécher ou d'entrer en contact avec comme une trop grande déshydratation de la cavité à l'air chaud. Une telle dent doit d'abord être traitée et être convenablement protégée avant d'y appliquer un silicate.

2—Une infection de la pulpe. Il arrive quelquefois qu'une pulpe est déjà infectée par la carie avant d'y appliquer le silicate. A coup sur, on ne peut en blâmer le silicate.

3—Compression. La cavité peut être si près de la pulpe, que la pression hydraulique exercée par la traction de la bande déprime la mince paroi pulpaire contre la délicate pulpe. Pour éviter ceci, il faut construire une base de ciment de zinc. Celle-ci prend, sèche en formant une couche cristalline de phosphate de zinc fort tolérable à la pulpe après les premières minutes.

4—Pulpe exposée. Durant la préparation de la cavité une minuscule exposition de la pulpe peut échapper à l'attention de l'opérateur et causer une irritation dont on ne peut blâmer le silicate.

5—Chez les enfants les tubes de la dentine sont larges et la pulpe plus près de la

surface. Aussi y a-t-il plus grand danger d'irriter la pulpe.

Les silicates d'autrefois semblaient plus dangereux pour la pulpe que ceux des dernières années. Cela est probablement dû aux conditions du liquide. Il ne semble que chez les adultes la cavité ordinaire ne requiert pas de vernissage. Si l'on désire une protection, le vernis à l'éther est préférable. Appliquez largement dans la cavité avec une boulette de coton et quand il est bien séché, rafraîchissez les parois de la cavité avec un instrument.

Température Et Humidité

Quand la température est élevée, dans un volume donné de liquide, on peut incorporer moins de poudre. Les réactions de la prise commencement immédiatement et vont rapidement et donnent une masse obturatrice plus faible. Il est désirable de refroidir encore pour obtenir une obturation plus forte. Mais, il ne faut pas pousser cela au point de provoquer la formation de gouttelettes sur la plaque. Pendant le malaxage, il faut éviter les courants d'air directs d'une fenêtre ou d'un éventail électrique. La vapeur d'eau qui bout dans un vaisseau ouvert peut nuire aussi.

Indication

C'est aux endroits suivants que les silicates tiennent le mieux.

1—Les points et les fissures étroites, des incisives, des bicuspidés et des molaires.

2—Les cavités proximales des incisives et des canines quand l'angle incisif n'est pas compris.

3—Les façades pour incrustation ou couronne complète. Aussi dans les formes de celluloïde pour coiffe temporaire. Quand on y veut placer une coiffe temporaire, il faut traiter au phénol et au vernis la dent préparée. On ne peut encourager l'emploi de silicate aux tiers gingivaux, à moins qu'aucune autre restauration ne soit possible.

Préparation De La Cavité Pour Silicate

La cavité doit être aussi petite que possible sans négliger la forme de commodité. L'angle cavo-périphérique doit être à angle droit des surfaces et adouci le plus possible à l'aide de pierres fines ou de ciseaux tranchants. En dessous de cet angle une simple gouttière faite à la petite fraise ronde servira très bien de forme de rétention.

Outils

C'est une pauvre économie de se procurer des instruments de qualité inférieure. Les meilleurs sont nécessaires. En voici la liste.

1—Il faut une épaisse plaque de verre avec thermomètre de préférence pour conserver une température constante spécialement si on doit la refroidir.

2—Une spatule en agathe ou en stellite. Elle ne doit pas être flexible à cause de la grande pression qu'on doit exercer en faisant le mélange. La plupart des spatules en acier inoxydable suffisent à la préparation des oxyphosphates et non aux silicates.

3—Des fouloirs inoxydables. L'instrument de Hollenback (Clev-dent) fait un excellent instrument fouloir et un explorateur inoxydable pour dégager les bulles d'air emprisonnées.

4—De fines bandes celluloïde et du beurre de cacao (demi-dur).

5—Un vernis lourd pour recouvrir l'obturation avant de donner congé au patient.

6—Disques à polir très fins.

Technique

1—Avant toute opération recouvrir de vernis et de beurre de cacao pour les protéger tous les silicates déjà faits dans le champ d'opération.

2—Avant de commencer le malaxage, placer la bande de celluloïde et la rabattre sur la cavité pour s'assurer de son adaptation.

3—Sur la plaque, placez d'abord la poudre, puis deux gouttes de liquide. Deux plutôt que trois, ça requiert moins de malaxage. Fermez la bouteille aussitôt que possible pour empêcher l'évaporation ou l'absorption d'humidité.

4—Commencez le mélange aussitôt le liquide déposé. Une large quantité de poudre d'abord et successivement de petites jusqu'à la consistance voulue. Faites un mélange aussi épais que possible sans cependant sacrifier la plasticité.

5—Tenez le mélange en masse. On y parvient en tenant la spatule légèrement relevée. Travailler en tenant la spatule à plat étend le mélange. Ramassez la masse et repliez-la sur elle-même en dégageant la spatule.

6—Ramassez le tout sur la spatule et demandez à votre assistante de la tenir près de la cavité de manière à ne pas perdre de temps durant le bourrage. Ne surchargez pas la cavité.

7—Dans les petites cavités insérez un explorateur en l'agitant, vous dégagerez l'air emprisonné et ça ne prend qu'une seconde.

8—Tirez maintenant la bande de celluloïde et maintenez la immobile jusqu'à ce que le surplus de la spatule soit dur.

9—Enduisez labialement et lingualement de beurre de cacao et faites pénétrer par un mouvement de va et vient de la bande.

10—Après quelques minutes, essuyez le beurre avec un bout de rouleau de coton et vernissez. Laissez sécher le vernis à l'air sans le déranger.

11—Il faut polir à la séance suivante en appuyant légèrement et en utilisant beaucoup de beurre.

Quand il faut remplir deux cavités adjacentes, on place d'abord une bande de celluloïde et procéder dans une cavité comme si elle était seule. Quand le ciment est dur relâchez la bande sans l'enlever et appliquez le beurre de cacao. Préparez ensuite un second mélange et comblez la seconde cavité en employant la même bande. Quand à son tour il est dur, suivez toujours la même procédure et vernissez les deux en même temps. Essayer de remplir deux cavités en même temps est une pauvre technique. Vous aurez trop de surplus et pas assez de temps pour remplir également bien deux cavités.

Article paru dans "The Apollonian" April 1942

Pathologie générale et stomatologie

(Suite)

Les affections du sang

(a) LES LEUCEMIES AIGUES.—Il y a toujours des signes buccaux polymorphes et précoces. Le premier est le "suintement sanglant" surtout nocturne du collet des dents: de plus "tuméfaction violacée" des languettes interdentaires dont la coloration tranche sur la pâleur livide du reste de la muqueuse. Parfois il s'agit d'une stomatite leucémique (aspect scorbutique) à forme "hypertrophique" ou à forme "nécrotique" (pouvant aller jusqu'au noma). Cette stomatite est souvent le signe initial de l'affection. Parfois extension aux amygdales (genre phlegmon ou bien genre angine diphtérique ou de Vincent).

(b) **LES LEUCEMIES CHRONIQUES.**—Les signes buccaux sont analogues mais plus discrets; de plus on a déjà de la splénomégalie avec les autres signes osseux, ganglionnaires, etc.

L'agranulocytose.—Généralement les signes buccaux sont les premiers (angine agranulocytaire puis ulcération rapide—ces lésions se transmettent à la bouche proprement dite et l'ensemble de ces lésions constituent un "Noma bucco-pharyngé"). Dans cette affection, la résistance des tissus aux irritations mécaniques et infectieuses est nulle, d'où nécroses faciles et rapides ⁽¹⁾.

L'anémie pernicieuse.—Gingivite fongueuse (aussi coloration tranchant sur le fond livide de la muqueuse et hémorragies). Langue pâle. Parfois "Glossite de Hunter", c'est-à-dire: taches rouges, petites, surtout aux bords; parfois vésicules. Pour Hunter, il s'agirait d'une "anémie glossitique"; pour d'autres, auteurs, ce serait la septicité pyorrhéique qui serait à l'origine de l'anémie (?).

Les chloro-anémies.—Pâleur caractéristique des muqueuses: parfois gonflement de quelques languettes interdentaires sans aucune cause locale apparente; légères hémorragies spontanées ou provoquées.

Le purpura.—Importance des stomatorragies; parfois "bulles sanguines" sur la muqueuse buccale. Complications gangréneuses possibles. (Le purpura ecchymotique de Werlhoff relève de l'hémogénie; voir plus loin.)

L'hémogénie.—Dyscrasie sanguine acquise ou héréditaire; chez les femmes surtout. Caractérisée, du côté buccal notamment, par des hémorragies spontanées et récidivantes. Quelle que soit l'origine (foie? endocrines?) on a toujours des "stigmata hémorragiques constants": (a) temps de saignement augmenté; (b) temps de coagulation normal; (c) caillot irrtractile; (d) thrombopénie (rareté des hématoblastes). Donc, en présence d'hémorragies buccales spontanées et récidivantes, coexistant avec des hémorragies "ailleurs" et des tares vasculaires (varices, thrombose, fragilité des capillaires: signe du lacet) il est formellement indiqué de faire les épreuves du sang.

L'hémophilie.—Se caractérise par des hémorragies provoquées. Mais à l'inverse de l'hémogénie, nous trouvons un "*retard considérable du temps de coagulation*". Fréquentes récidives des hémorragies aux mêmes endroits et un peu partout (soit au revêtement externe de l'organisme, soit dans son intimité même).

L'hémophilie présente une très grosse importance au point de vue stomatologique car elle peut être grave dans plusieurs circonstances, par exemple: lors de la chute des dents de lait, soit spontanée soit provoquée; lors des extractions: celles-ci sont plus dangereuses que des interventions de chirurgie générale car dans ces dernières les sections et les sutures sont nettes, l'hémostase par compression est systématique, tandis que lors des extractions, même pratiquées avec le maximum de précautions, il se produit malgré tout, un traumatisme des tissus mous, quand pas davantage; lors des abcès, des ablations d'épulis; lors des injections anesthésiantes (surtout à la face interne du maxillaire inférieur où peut se constituer un "hématome du plancher"

⁽¹⁾ Stomatite suite d'arulsion dentaire, signe révélateur d'une leucémie aigue: Lieutenant-Colonel-Médecin SERGEANT et Lieutenant-Médecin LANGIER (*Revue de Stomatologie*, 1934). Il s'agit d'un cas intéressant, en ce sens que le tableau clinique fut "atypique" et que l'affection ne s'est révélée que par des signes buccaux.

CH. RUPPE (*Revue de Stomatologie*, 1933) insiste sur la possibilité de ce symptôme précoce et solitaire qu'est la stomatite, et qui précède ou peut précéder les modifications sanguines. De plus (*Monde médical*), l'auteur a communiqué à la Société de Stomatologie qu'on peut avoir affaire à un pseudo-scorbut, évoluant vers la forme ulcéro-membraneuse d'emblée. Il fait remarquer que les signes locaux peuvent s'améliorer rapidement, alors que l'affection générale continue inexorablement.

Pour P. E. WEIL et P. ISCH WALL, il ne s'agirait pas d'une détermination leucémique spécifique, mais d'une infection secondaire banale.

BELIARD et VILENSKY (*Revue de Stomatologie*, 1893). Syndrome agranulocytaire à début strictement buccal. Une ulcération buccale isolée ne doit pas faire écarter le diagnostic parce que l'amygdale est indemne (angine agranulocytaire de Schultz). Les auteurs insistent sur la variabilité et la multiplicité des formes hémalogiques du syndrome.

amenant le refoulement de la langue vers le haut, avec troubles de la déglutition et de la phonation). Bref, dit Rousseau-Decelle, à tout moment de sa pratique, le stomatologiste peut avoir à faire le diagnostic étiologique d'une stomatorragie ou à prévoir la possibilité d'accidents hémorragiques post-opératoires.

L'hémophilo-hémogénie.—Mêmes troubles sanguins que dans l'hémogénie, mais en plus un *retard du temps de coagulation*. Il y a prédominance d'hémorragies spontanées ou provoquées suivant les cas.

Les stomatorragies

(I) PROVOQUEES.—(a) *Il y a des causes locales*: I. Cause limitée: épithélioma, épuils, fracture. Le diagnostic est facile car il n'y a qu'un seul foyer hémorragique. II. Cause diffuse: la bouche entière ou une demi-bouche, soit des foyers disséminés (par exemple gingivite tartrique, stomatites, etc.).

(b) *Il n'y a pas de causes locales*: ni tumeur, ni traumatisme, ni infection. Donc il s'agit d'une cause générale. Celle-ci est évidente dans les maladies aiguës (infections, purpura, typhoïde, anémie pernicieuse, leucémies aiguës, etc.). Dans les maladies chroniques ou dans la période initiale de certaines affections aiguës, les premiers signes sont généralement buccaux.

Conclusions.—Chez tout malade qui présente des hémorragies gingivales, des gencives fongueuses ou même une simple turgescence violette des languettes—cette coloration tranchant sur le reste de la muqueuse "livide"—, *il faut faire un examen du sang*. Voir aussi s'il n'y a pas intoxication, carence, cachexie, affection du cœur ou des reins, hémogénie.

(II) STOMATORRAGIES SPONTANÉES.—(A) *Immédiate*: lors des fractures alvéolaires ou déchirures de muqueuse.

(B) *Tardive*: en cas d'alvéolite par exemple (réaction inflammatoire des parois alvéolaires).

(C) *Troubles hématisques vrais*: faire l'examen qui s'impose.

Quelles seront les conclusions stomatologiques découlant de ces considérations?

1° Toujours songer à une "dyscrasie sanguine": chez l'enfant, voir hémophilie; chez la femme, voir hémogénie (les règles constituent un "temps de saignement" excellent). Chez les adultes des deux sexes: S'il y a doute, faire les épreuves des: (a) temps de saignements; (b) temps de coagulation; (c) mettre en évidence le "signe du lacet". Si ces 3 épreuves sont *positives*, il faut établir une série de précautions à prendre avant toute intervention buccale: chlorure de Ca, injections hémostyl, sérum (cas légers). Injection de sérum ou sang du malade, la veille de l'intervention (cas graves), transfusion une heure avant (cas très graves). Toutes ces considérations sont bonnes pour les hémorragies *immédiates*.

2° Mais pour les "*secondaires*", ces dispositions paraissent bien aléatoires.

Pour P. E. Weil, les difficultés d'intervention ne sont pas tellement fonction de la gravité de l'affection, mais bien plus des facteurs suivants:

1° Docilité du sujet (qui acceptera autant de transfusions qu'il faudra). 2° Belles veines. 3° Intervenir toujours en clinique et séjour de plusieurs jours au lit. 4° Pas d'anesthésie sauf anesthésie *générale*. 5° Faire une extraction à la fois. 6° Méthodes les moins traumatisantes. 7° Eviter la déchirure de l'anneau fibromuqueux. Et si malgré toutes ces précautions, des hémorragies se produisent, alors il faut faire l'*hémostase* (lavages au sérum physiologique ou eau alcalinisée; tamponner à la gaze stérile). Si ces moyens sont inefficaces, utiliser le *muscle d'oiseau*.⁽¹⁾

Les affections cardiaques

Il existe plusieurs observations d'*endocardite aiguë* d'origine "dentaire". En ce qui concerne l'*endocardite maligne à forme lente*, il est indispensable de ne pas négliger le point de vue buccal. En effet, l'agent pathogène de cette affection, le *strepto viridans*, est très fréquemment l'hôte des amygdales et des alvéoles. Les observations relatives à cette affection et à son origine dentaire sont assez nombreuses. De plus, on a retrouvé dans les foyers dentaires le même strepto que dans les lésions de l'endocarde; l'inoculation au lapin a donné des lésions cardiaques analogues. C'est précisément dans les affections apexiennes subaiguës ou chroniques que nous retrouvons encore ce même strepto viridans. Il s'ensuit donc qu'il faut être extrêmement prudent dans les soins de la bouche donnés aux cardiaques: et d'autant plus que l'endocardite maligne à forme lente se rencontre chez des sujets qui ont subi une atteinte cardiaque antérieure au cours d'infections anciennes (rhumatisme, syphilis).

Tellier est formel: dévitaliser des dents saines pour en faire des piliers de prothèses fixes (bridges), c'est ouvrir une voie vers l'apex de la dent et c'est favoriser une possibilité d'endocardite; cette ligne de conduite constitue selon lui, *une faute lourde, juridiquement parlant*.

Conclusions stomatologiques.—1° Supprimer, dans un but préventif, tout foyer infectieux buccal chez les cardiaques.

2° Ne dévitaliser que si c'est rigoureusement indispensable (caries douloureuses) et le faire d'une façon "absolument aseptique". Sinon, il vaut mieux extraire.

3° S'il faut placer un bridge sur des dents déjà soignées, la radio préalable s'impose.

4° Chez tout cardiaque porteur de dents "dévitalisées", il faut faire des examens radiographiques fréquents.

Les affections broncho-pulmonaires

Toute affection peut suivre une voie *ascendante* (ensemencement de la muqueuse buccale par les BK des crachats) ou une voie *descendante*. Ce dernier cas est bien illustré par la *gangrène pulmonaire*. Cette affection peut prendre naissance de trois façons:

(a) par la voie "*trachéo-bronchique*": notamment par corps étrangers d'origine dentaire ou par liquides septiques inhalés accidentellement au cours d'une anesthésie générale (voir en note). Ou bien encore par auto-inhalation répétée.

(b) par la voie "*sanguine*": embolie issue d'une infection buccale ou décharges microbiennes issues de "Granulomes" ou "kystes" suppurés (1);

(c) par voie "*lymphatique*": cette théorie est admise surtout par les étrangers. Quoi qu'il en soit, ces modes de transmission aboutissent à de lésions suppurées ou de gangrène (abcès pulmonaire ou gangrène pulmonaire).

La gangrène pulmonaire peut se présenter sous forme "massive" ou bien "à foyers multiples" et "abcès gangréneux". Dans ces derniers, les poussées successives correspondent souvent à des périodes de rétention douloureuse au niveau de kystes dentaires suppurés et, dans beaucoup de cas, la guérison s'est réalisée par la seule extraction de la dent causale. Pour Fargin-Fayolle, les amygdales et les dents sont très riches en anaérobies et la forme de gangrène à foyers multiples serait généralement hémotogène. Anaérobies? La question est très discutée. Quoi qu'il en soit,

(1) On peut avoir des cas infiniment plus graves, où tous les moyens habituels signalés échouent. Il faut alors envisager la ligature de la carotide.

En ce qui concerne les anesthésies générales, voir plus loin au chapitre des affections pulmonaires.

la plupart du temps, la fuso-spirillose est en cause (Ruppe et Lambling ont signalé un cas où il s'agissait du "streptococcus")

Conclusions stomatologiques.—1° Pas d'anesthésie générale dans les cas de suppuration sérieuse de la bouche.

2° Supprimer tout foyer d'infection buccale, surtout lorsque l'état général est mauvais.

Les affections gastro-intestinales

Les affections digestives retentissent plus ou moins sur l'état buccal. (Langue rouge, blanche, jaune, œdème; stomatite catarrhale, aphtes, stomatite ulcéreuse, glossite exfoliatrice marginée, etc.).

Mais la bouche peut aussi une influence sur le tube digestif. Aussi, la langue est-elle le miroir de l'estomac? Question bien discutée et non tranchée (différence d'innervation, différence d'origine embryologique. Pas de corrélation étroite entre les deux muqueuses? Action de causes à distance?). Ce qui est certain, c'est que très souvent une mauvaise "denture" se lie à des "troubles gastro-intestinaux". On a cru longtemps que seule la mauvaise mastication était responsable des troubles digestifs. Or, il y a d'autres facteurs qui démontrent les relations unissant état buccal et état gastro-intestinal. Ce sont:

LES FACTEURS MECANIQUES.—La vitesse d'attaque catalytique de la salive est proportionnelle non pas au volume mais à la surface (si 10 gr. de viande demandent 1½ heure pour être transformés en albumine et peptone, 10 morceaux de 1 gr. se transformeront beaucoup plus vite parce que la surface est plus étendue).

LES FACTEURS CHIMIQUES.—La mastication augmente la salivation; or, l'insalivation est le premier temps d'une bonne digestion; si elle est insuffisante, les aliments seront mal préparés à subir l'action du suc gastrique (première cause de troubles digestifs). De plus, il y a synergie entre l'action de la salive et celle du

(1) Le *granulome* est une tumeur pleine de l'apex, ronde, irrégulière; il est constitué de tissu conjonctif sans tissu épithélial, c'est un tissu de réaction de défense circonscrivant les bactéries (microbisme latent). Ensuite cette lésion s'entoure de tissu épithélial venant des débris "épithéliaux de Malassez" (débris cellulaires embryonnaires localisés principalement au collet, plus bas et dans l'espace péri-apical). Cette tumeur organisée constitue le *kyste*, qui est ainsi une "membrane contenant sérosité ou pus". Prof. FAUCONNIER.

Il m'est agréable de mentionner ici la méthode des "anesthésies générales" du docteur MARTIN, stomatologiste en chef de l'Hôpital des Anglais, avec lequel j'ai eu le plaisir de travailler pendant trois ans. Nous avons pratiqué, entre autres, 1750 anesthésies générales au chlorure d'éthyle en un an et demi. Toutes les interventions se sont faites sans "un seul incident" à déplorer. La raison en est que nous ne poussons pas la narcose à fond, mais que nous nous contentons d'une "analgésie" provoquée; quelquefois même le malade garde conscience de ce qui l'entoure. Mais il est absolument certain que cette anesthésie, qui ne s'indique guère pour les interventions buccales de longue durée, est largement suffisante pour des extractions et même des trépanations de dents. Pour répondre à la contre-indication ci-dessus concernant les anesthésies générales dans les cas de suppurations buccales, même graves, je dois à la vérité de signaler que nous avons pris l'habitude—presque instinctive—de "basculer systématiquement le malade en avant" dès que la dent est extraite, ou que la collection suppurée est ouverte; cette pratique empêche incontestablement toute pénétration de liquides septiques ou corps étrangers dans les voies respiratoires ou digestives. Et d'autant plus que les interventions se font généralement "au début de la période d'excitation".

Bruzelles-Médical, 1936 (A travers Sociétés et Revues). Beaucoup de "bronchites", dites "à frigore", chez les enfants de 13 à 24 mois, sont des bronchites d'origine dentaire. De même, certaines crises d'asthme à évolution cyclique, dont la durée est égale à celle de la poussée dentaire. Du reste, les traitements classiques n'apportent guère de sédation, alors qu'ils sont toujours efficaces dans les autres formes de ces affections.

Participation de la langue aux affections des organes internes: Dr W. PAGEL, de l'Institut pathologique de Heidelberg (d'après la *Klinische Wochenschrift*, 1933, n° 38). Langue noire dans les affections de l'estomac. Langue sèche et écarlate dans le diabète. Enduit hémilatéral troubles trophiques (foyer cérébral, par exemple, BORNSTEIN, *Zeitschrift für Neurologie*). Langue jambonnée de la grippe (FRANKE, 1900). Langue laquée des néphrites (Hentze, 1927). Papilles filiformes grossies avec kératose avancée et parakératose, parfois formations kératohyalines et enduit épais (cellules desquamées, bactéries et leucocytes): dans la péritonite (15 fois sur 20 pour PAGEL). Atrophie de la muqueuse linguale dans les maladies biliaires, ictere grave, cirrhose, calculs. Tendance à l'atrophie dans les affections cardiaques et cachexie graves. Langue hyperplastique (langue septique) dans ostéomyélite avec amyloïdose.

Signes buccaux dans la cholécystite et l'ulcus duodénal: 1° Etat saburral (amertume buccale matinale ou prandiale); 2° Sialorrhée (signe de l'oreiller); 3° Tuméfaction des gencives (hémossalivées, souvent confondues avec hématomèses ou hémoptysies), congestion des palais, gorge, pharynx, avec production de mucus plaçant en faveur d'une affection hépatique. Aphtes à répétition avec légère tuméfaction des lèvres, faisant penser à une localisation biliaire.

Infection bactérienne gingivale et toxi-infections éloignées: FR. MOUTIER, R. VINCENT et H. PRETET (*Revue de Stomatologie*, n° 5, mai 1931): Les auteurs concluent à la nécessité de la collaboration entre le gastro-entérologue et le stomatologiste.

suc pancréatique. Le ferment amylolytique de la salive n'est actif dans l'estomac que jusqu'au moment où s'installe la sécrétion gastrique qui annihile le ferment salivaire. Ce dernier récupère son activité lors de son passage dans le duodénum, où il double l'action du suc pancréatique sur l'amidon. Nous pouvons conclure ainsi à une relation entre la diarrhée des féculents et l'insuffisance salivaire; du reste, il est très fréquent de voir ce trouble digestif guérir uniquement en rétablissant une bonne mastication qui améliore et la quantité de salive et son action.

Quant aux raisons qui troublent la mastication, elles sont: l'édentement, les dents douloureuses, tachyphagie, la gloutonnerie.

LES FACTEURS INFECTIEUX.—La flore buccale est extrêmement riche mais composée de saprophytes ou de germes atténués. D'autre part, le suc gastrique est fort peu favorable à leur pullulation et du reste, il ne font que passer dans la cavité de l'estomac. Cependant une "suppuration constante" (Galippe 1901) peut donner, à la longue, des lésions "pariétales" ou "viscérales". Ou bien les germes agiraient directement sur la muqueuse ou bien il y aurait une intoxication générale à retentissement gastrique (Tellier). Nous pouvons ainsi avoir affaire à la *gastrite septique* ou à la *gastrite phlegmoneuse* d'origine bucco-dentaire. Dans l'*ulcère de l'estomac* ou du *duodénum*, il s'agirait, pour les Frères Mayo, d'une localisation venant d'ailleurs, par bactérihémie (foyers buccaux surtout). Cette opinion est très discutable; cependant ce qui est certain, c'est qu'une infection secondaire peut donner une "aggravation" ou une "prolongation" de l'ulcère; autour de ce dernier existe en effet fréquemment un *halo* inflammatoire dû au strepto—qui, lui, pullule dans la bouche. Il faut en conclure qu'il faut mettre la bouche en état lors des ulcères et principalement lorsqu'il y a une intervention en vue. De même, les germes pathogènes pourraient remonter le cholédoque—d'où *cholécystites* ou *angiolcholites* (Mayo-Lebedinsky). Quant aux autres infections *hépatiques*, l'infection se fait bien plus par voie sanguine que canaliculaire (muqueuse intestinale, capillaires du système porte, veines mésentériques), tronc de la veine porte et enfin, système capillaire porte hépatique). Rousseau-Decelle signale 2 cas de pyorrhéiques refusant tout traitement du côté buccal et qui sont morts d'infection hépatique semblant ne pas avoir d'autre explication étiologique.

Les affections urinaires

Action des voies urinaires sur la cavité buccale.—Voir plus haut la Stomatite urémique. De même, les infections urinaires chroniques ont une action profonde sur la muqueuse buccale (langue rouge, sèche, lèvres fuligineuses, langue rôtie). Chez les vieux urinaires, on constate une *asialie* presque totale (au contraire de la stomatite urémique). Pour Tellier, ces infections urinaires pourraient "créer" parfois des "foyers péri-apexiens" au niveau de dents déjà dévitalisées; ces foyers pourraient alors être à l'origine de certaines "lésions à distance".

A remarquer que la sécheresse des muqueuses que l'on rencontre ici, est un facteur très favorable à l'éclosion du "Muguet".

Action de la bouche sur les voies urinaires.—Pour les Américains les infections "focales" peuvent donner des lésions aiguës des reins, des cystites, prostatites, etc. Pour l'école française, il n'en est rien, car les *infections focales* sont *peu virulentes*. Donc, il ne s'agirait que de la *surinfection* d'un organe déjà lésé ou de l'*altération chronique* de cet organe par l'action *constante* d'une infection peu virulente. Atteinte prolongée et longtemps méconnue du tissu glomérulaire par les bactéries. L'auteur cite deux cas de pyorrhéiques et un cas d'arthrite alvéolo-dentaire où il y avait albuminurie; cette dernière a complètement guéri par soins de la pyorrhée d'une part et par l'avulsion de la dent causale d'autre part.

La transmission se ferait par la muqueuse intestinale. Ceci nous amène à tenir compte du *syndrome bucco-entéro-rénal* de Lebedinsky.

Quant à déterminer le maximum de virulence, on a le choix entre l'avis de Grandclaude qui tient pour la suppuration buccale et l'avis des Américains qui tiennent pour le granulome (qui essaierait dans le sang).

Les dermatoses

L'*urticaire* et la *maladie de Quinke* peuvent se localiser à la bouche; l'*eczéma* est infiniment plus discutable en ce qui concerne la bouche; par contre, il est très fréquent au revêtement cutané-muqueux des lèvres. (*Remarque*: Il est très souvent dû à l'emploi de dentifrices à base de salol.)

Le *lichen plan*, au contraire, présente une prédilection toute spéciale pour la muqueuse buccale où il peut se localiser "uniquement". Il se présente sous forme de papules (lentilles) brillantes, caractérisées par des "stries" et des petits points blancs nacrés ou grisâtres au sommet. Aux joues, il affecte la forme de "lambeau de dentelle"; à la langue, même disposition, sinon en "feuille de fougère". Cette affection est absolument indolore. Elle ne donne aucune gêne, sinon la "phobie du cancer" et la glossodynie. L'évolution est longue, voire indéfinie. Anatomie pathologique: hypertrophie du corps muqueux de Malpighi et abondante néoformation de kératohyaline. Le lichen-plan se développe surtout chez d'adulte et notamment chez les intellectuels surmenés, les névropathes (émotions, chagrins, obsessions). Sur la peau, il est secondaire au grattage: dans la bouche, il se localise généralement aux endroits de frottement.

L'*impétigo* présente deux manifestations buccales: "La stomatite impétigineuse", qui est une localisation vestibulaire (segment antérieur de la bouche) et qui coïncide généralement avec une localisation "faciale". Rare à la langue. La seconde manifestation de l'impétigo est la "perlèche", qui est localisée à la commissure labiale, est symétrique, bénigne et due au strepto; caractère de contagiosité surtout "scolaire". Il y a macération des commissures, la lésion étant à cheval sur les téguments muqueux et cutané. Elle peut durer des semaines, des mois, mais parfois il y a disparition spontanée. Le grand danger de la perlèche n'est pas d'ignorer la maladie, mais bien de "la confondre avec des lésions syphilitiques" (bien entendu dans ce cas-ci nous avons les autres signes de spécificité. De plus, la syphilis n'est pas forcément symétrique et en tout cas, pas uniquement cantonnée au pli commissural).

L'*hydropa* buccal (forme de "cocarde") peut affecter la forme d'érosion diphtéroïde placée au centre d'un cercle rouge. Parfois toute la muqueuse buccale est atteinte. Généralement douloureux.

La *dermatite polymorphe douloureuse de Brocq* ou *herpétiforme de Duhring* se caractérise par son polymorphisme. Il se forme d'abord une bulle éphémère, puis une érosion diphtéroïde douloureuse et récidivante. Traitement local et général.

Le *pemphigus* est douloureux, avec sensation de sécheresse et de brûlure de la bouche; puis, apparition de "bulles" qui s'ulcèrent et se recouvrent d'un enduit diphtéroïde. Il existe des localisations buccales "seules", avec hémorragies, ulcérations et température vespérale.

L'*herpès* est constitué d'un œdème intercellulaire de la couche muqueuse de Malpighi, d'où dégénérescence fibreuse des cellules.

Il existe un "herpès traumatique", qui peut naître à la suite d'une extraction et du même côté (traumatisme de l'épithélium?) (Cf. vulve après défloration?). De même, on peut rencontrer un "herpès réflexe" suite d'irritation alvéolo-dentaire aiguë, extraction, arthrite, pulpite et pansements dentaires à base de *formol* ou d'*arsenic*.

Il faut aussi envisager la variété d'herpès récidivant, dont le type est l'herpès cataménial.

En ce qui concerne la nature exacte de l'herpès, les avis sont très partagés; mais il faut reconnaître que si l'on met en présence la théorie infectieuse, d'une part, et l'herpès dû à des extractions ou des pansements au formol ou à l'arsenic, d'autre part, il existe une réelle contradiction entre ces deux éventualités.

Il nous reste encore à examiner la *stomatite herpétique*. Son début est brusque et solennel, comme la pneumonie. Il naît alors des douleurs buccales, puis 24 à 48 heures après, des vésicules apparaissent partout, ensuite des ulcérations recouvertes de pseudo-membranes, blanc opaque. Ganglions, 3-4 jours de température, puis guérison en 10 jours environ. Cette stomatite coïncide souvent avec une "angine herpétique", d'abord érythémateuse, puis viscéuleuse, puis pseudo-membraneuse.

Le zona—C'est principalement le zona traumatique qui se rapproche le plus des zonas d'origine dentaire. Il peut se localiser uniquement à la bouche (hémiglossite avec œdème sous-muqueux et rougeur douloureuse; puis vésicules qui s'ulcèrent vite; parfois localisation palatine avec rougeur unilatérale, douleurs vives et vésicules fugaces). Le zona peut aussi être localisé à la fois à la peau et à la bouche (nerf maxillaire supérieur ou inférieur).

Le zona du trijumeau.—En fréquence, il est d'abord ophtalmique, puis maxillaire supérieur, enfin maxillaire inférieur. Dans certains cas, on trouve, à l'origine, une "irritation alvéolo-dentaire chronique" (cf. zona par traumatisme nerveux), qui joignant son action à celle d'autres irritations chez des sujets surmenés ou déséquilibrés, donne alors un vrai zona, étendu, grave, avec lymphocytose rachidienne (qui n'est donc pas une simple éruption cutanée). La suppression des irritations dentaires donne alors la guérison. Le processus pathologique consiste en une irritation ascendante du ganglion de Gasser et névrite dégénératrice consécutive.

Une conclusion s'impose: dans tout zona du N.V. et du plexus cervical, il faut faire une soigneuse inspection de la bouche et supprimer toute cause d'irritation possible (surtout dans le cas de névralgies post-zonateuses persistantes).

Invitation

"L'Institut de Pathologie Buccale Clinique de New York annonce la tenue de sa première séance ouverte, à la New York Academy of Medicine, lundi, le 30 octobre 1944, dans la salle Hosack.

Des chercheurs connus participeront à un symposium sur "La fluorine et la carie dentaire".

Les membres des professions dentaire, médicale, de santé publique et les autres groupements professionnels sont cordialement invités.

Pour renseignements supplémentaires, on s'adressera au Secrétaire de l'Exécutif, 101 est 79ième rue, New York 21."

Conseils Pratiques

Recueillis ici et là par le DOCTEUR R. E. LUSSIER, D.D.S.

1. Déposez l'anneau à incrustation sur un papier buvard pour faire durcir le revêtement plus rapidement et plus dur.
2. Pour faire, se servir rapidement d'un modèle en amalgame pour une matrice indirecte ou jacket crown, mesurez la quantité d'alliage et de mercure requis dans le mortier et y ajoutez quelques gouttes d'acide chlorhydrique. Le malaxage se fait instantanément sans trituration. Lavez à l'eau courante et remplissez la matrice. Le modèle sera prêt dans une heure à être utilisé.
3. Pour que les rouleaux de coton se maintiennent plus facilement sous la lèvre du patient, achetez des rouleaux de 6" de longueur, coupez-les en quatre, mais au lieu de les couper droits, coupez-les en sifflet ou coupez un V au milieu d'un rouleau de 6 pouces, pour garder les dents sèches d'une mâchoire ou pour mettre en dessous de la langue.
4. Avec les boîtes dans lesquelles vous recevez vos dents, on peut faire des cabarets (trays).
5. Les bourrures de cellulose que vous recevez dans les boîtes à dents, peuvent être facilement séparées pour en faire des mouchoirs (kleenex).
6. La teinture de myrrhe et de benjoin composée, parties égales, guérissent rapidement les plaies causées par les dentiers.
7. Pour prendre des matrices à inlay de dents temporaires à un enfant de 4 ou 5 ans qui craint la chaleur de la spatule. Avec un porte-empreinte à pont rempli de cire rose (à dentier) ramolie, prendre une empreinte de la région puis refroidir et dans l'empreinte de la dent y fondre de la carding wax (plaque de cire sur laquelle on reçoit les dents), puis remettre en place pour obtenir les détails de la cavité. Après refroidissement, retirez et coulez en revêtement. Après durcissement, séparez à l'eau bouillante, remplissez la cavité de cire, réduisez le modèle autour de votre cire aussi petit que possible, et attachez tige de coulée. La matière est prête à être investie.
8. L'oxyde d'étain adhère facilement à la muqueuse et au dentier, donc très utile pour marquer les plaques irritées par les dentiers dans la bouche.
9. Les crayons mogols servent aussi pour marquer les plaques sur les dentiers. Contournez ou crayonnez la partie affectée. Ces marques se déteignent en remplaçant le dentier sec.
10. Avec la carding wax on peut faire l'endiguement postérieur d'un porte-empreinte ordinaire (stock tray) et des porte-empreintes individuels faits de base plate et autres.
11. La peinture ou encre de celluloïd est faite des bouts de celluloïd qu'on se sert pour les silicates bien lavés et dissout dans l'acétone. Pour les teintes bleues, ajoutez bleu méthylène, rouge de la carmine, violet de gentiane, blanc oxyde de zinc.
12. Pour marquer les bouteilles, dessinez les lettres sur un papier collé, puis meulez avec une meule knife edge. Peinturez avec l'encre celluloïd de couleur au goût.

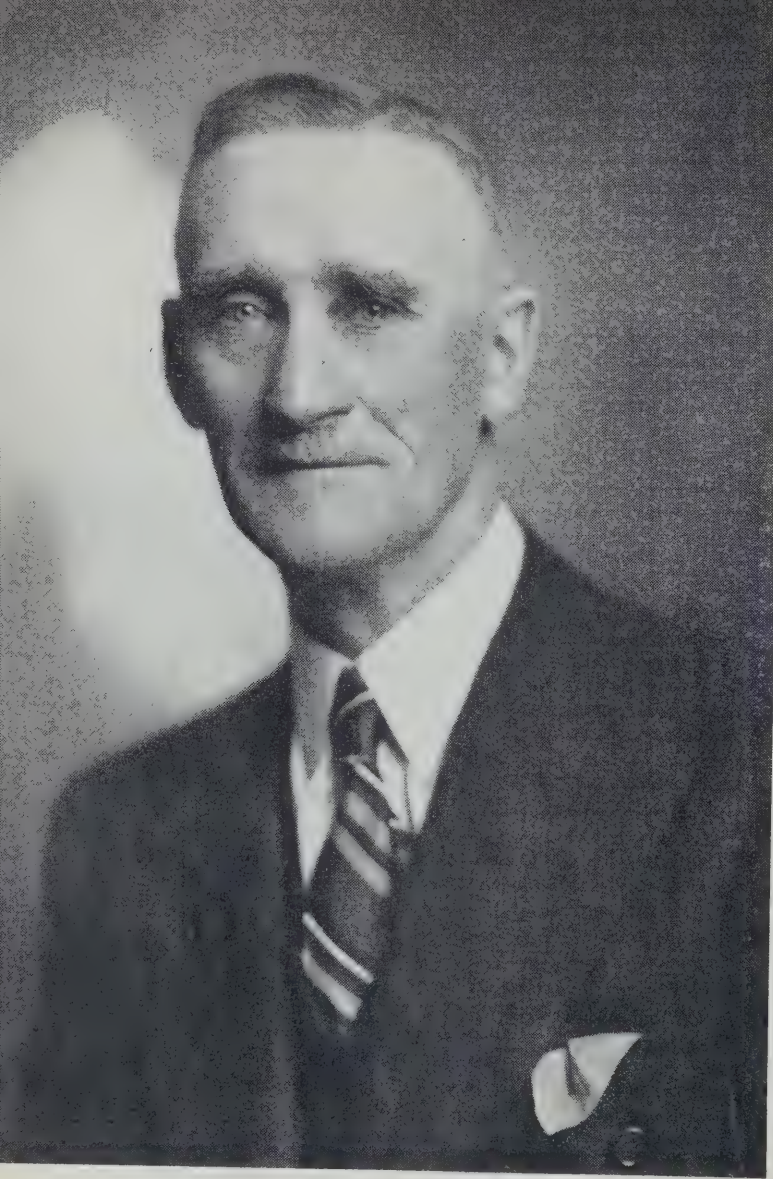


*Photograph by courtesy of Graphics Division of National Film Board, Ottawa.
Halftone by courtesy of Papyrus.*

Western cattle ranchers leading their herd to an alkali lake on their way to the grazing ground.

To know how to grow old is the masterwork of wisdom, and one of the most difficult chapters in the great art of living.—Amiel.

There are seasons when to be still demands immensely higher strength than to act.—Channing.



G. HARROLD CAMPBELL, D.D.S.
Orangeville, Ontario

Chairman, Board of Directors, Royal College
of Dental Surgeons of Ontario.

President, Dominion Dental Council.

Delegate to Canadian Dental Association since 1938.

President, Ontario Dental Association 1937.

Can Specific Infective Factors Operate to Deepen a Pocket? *

by HAROLD K. BOX, D.D.S., Ph.D.

Research Professor of Periodontology, Faculty of Dentistry, University of Toronto.

IN a recent paper (1942) on the subject of subgingival calculus it was pointed out by the writer that formations of organisms which were termed "colonies" and described as "actinomyces-like" were commonly present in the homogeneous material of the pocket. From an examination of many examples of these formations "in situ", in histological preparations of pockets, it is apparent that they closely resemble certain forms described by Beust, Tunnicliff, the Deans and other workers.

One illustration, in the paper mentioned, showed many cocklebur formations at the very base of the pocket, and lying in the soft cellular debris of this region. Fig. 1. An examination of illustrations of pockets in textbooks and articles discloses the fact that in many instances this soft accumulation at the base and along the wall of the pocket has been almost completely removed in the making of the sections. Obviously these preparations, with washed-out pockets and minus debris and contained organisms do not portray the actual pocket-content soft tissue relationship.

LEPTOTHRIX FALCIFORMIS

(BEUST)

Beust (1908) discovered certain mouth organisms to which he gave the name *Leptothrix falciformis*. These organisms were frequently found in soft deposits on the teeth. Typical well-developed formations appear to comprise a stem or stalk from which radiate numerous falcate, or scythe-shaped bodies or conidia. Beust (1929) stated that these conidia or spores which grow on the stalk of *Leptothrix falciformis* appeared to be identical with the fusiform bacillus. In other words, Beust considered that a fusiform organism besides multiplying by fission, can also form a "sporangium" from which are developed a number of daughter organisms. In describing the fructifying head of *Leptothrix falciformis*, he (1929) stated "that fusiform organisms grow on stalks forming heads somewhat resembling in appearance the spikes on some grasses with the difference that the whole stem may become covered with the growing bacilli."

Aisenberg (1933) thoroughly described the stem of this organism and

*The writer wishes to express his appreciation to Arthur W. Ham, M.B., Associate Professor, Department of Anatomy, University of Toronto, for his valuable assistance in the study of this problem; and also for making the photomicrographs.

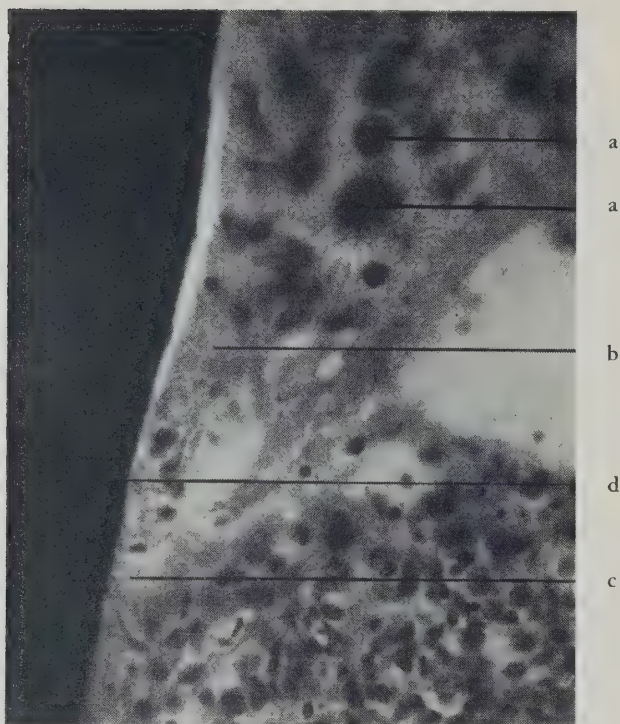


FIG. 1.

Fairly high magnification showing the base of the pocket with numerous cocklebur formations of radiating bacillary organisms in the soft cellular debris.

- a. cocklebur formation of organisms;
- b. homogeneous material of pocket;
- c. pocket base;
- d. cementum surface.

concluded that the falcate spores are attached to a matrix surrounding the stem rather than to the stem itself. He thought that Beust, in classifying the organism under the genus *Leptothrix*, and so naming it, was correct. He also was in agreement with Beust that *Leptothrix falciformis* is found in subgingival regions bathed in inflammatory exudates.

VIBRIOTHRIX TONSILLARIS
(TUNNICLIFF)

Tunncliffe (1938) described an anaërobic organism which she isolated as a short rod from tonsillar granules in 1926. On culture, this organism produces forms closely resembling those

of Beust's *Leptothrix falciformis*, and certain formations observed by Davis and Pilot (1922) in actinomyces-like granules of tonsils. According to Tunncliffe the test-tube brush forms appeared to result from the growth of gonidia in a filament while rosette forms developed through the budding of free gonidia. The star forms were noted at the ends of filaments and brushes. Tunncliffe and Jackson (1930) isolated a second strain of this organism from a tonsillar granule. Characteristic of this strain was the "production of masses of ovoid and irregular bodies and filaments, which stained pink with Giemsa, from which bacilli and filaments appeared to originate and around which the stars and

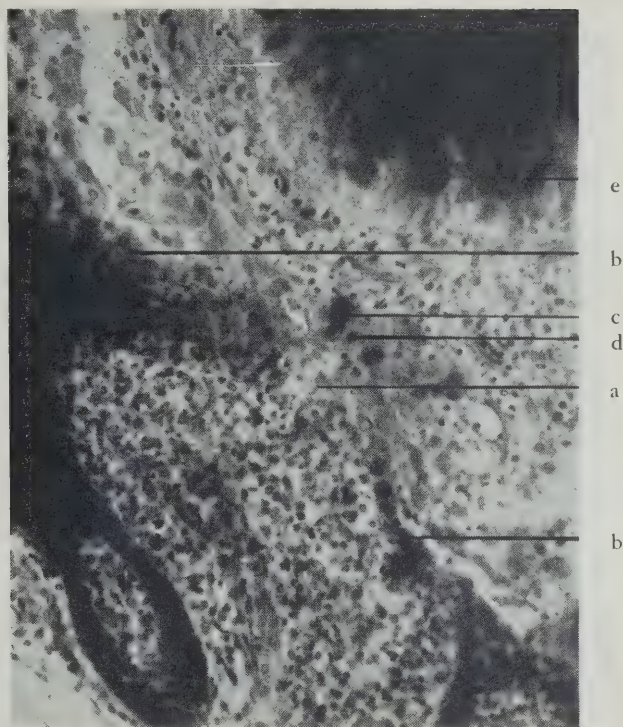


FIG. 2.

Fairly high magnification showing three formations of organisms (brush-like and cocklebur) in close proximity to a break in the epithelial continuity of the pocket lining.

- a. break in pocket epithelium;
- b. epithelial lining of pocket;
- c. brush-like formation of organisms;
- d. cocklebur formation of organisms;
- e. calculus.

test tube brush forms appeared to develop."

Dean, Richard R. (1931) in stained preparations of the pseudomembrane of necrotic gingivitis observed a "dichotomous branching type of growth." From this, mycelia and bacillary forms seemed to develop and these were regarded as "phases in the life-cycle of the bacillus fusiformis." Dean and Dean (1931) published the results of their cultural studies of fusospirochetal organisms. In a short summary, Dean, Marguerite T. (1931) has mentioned "cocklebur formations of bacillary forms," observed in cultures as well as fresh material. For a detailed description of the findings

of these workers the reader is referred to the original publications.

OBSERVATIONS OF EVIDENCE OF DAMAGE IN THE POCKET

In our histological study of sections of pockets, the presence of typical brush and cocklebur formations of organisms has been noted in close proximity to breaks in the epithelial continuity of the pocket lining. In Fig. 2, three such formations are shown close to a break in the pocket epithelium. Above and below the break, where the epithelium is intact throughout, no brush or cocklebur forms are to be observed. They have also been noted adjacent to fairly large areas of necrotic epithelium

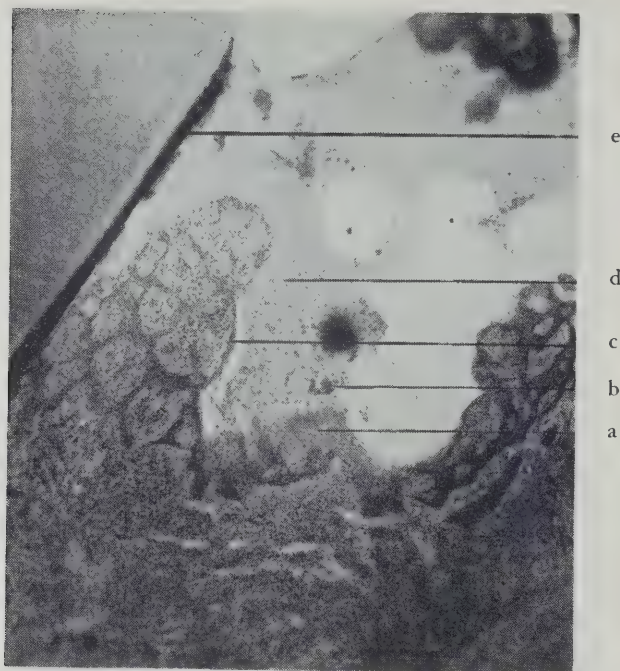


FIG. 3.

Low magnification showing part of a pocket at the distal of an upper third molar. A portion of the epithelial lining has undergone necrosis and lying nearby, in the cellular debris, are brush-like and branching formations of organisms.

- a. mass of necrotic epithelium;
- b. formations of organisms;
- c. epithelial lining of pocket;
- d. soft cellular debris;
- e. cementum.

near the base and along the wall of the pocket. Fig. 3, Fig. 4. Star formations have also been noted at the border of necrotic masses of epithelium not far removed from the epithelial attachment, and have been actually observed within the necrotic tissue. Necrotic epithelial cells in the deepest layers teem with fusiform organisms which resemble in size and shape those found in the star, cocklebur and brush formations.

In descriptions of the loss of epithelium at the base of the pocket, involving the separation of the soft tissues from the tooth in pocket formation, the terms "degeneration" and "desquamation" are frequently encountered. The observation, therefore, of large portions of the epithelial at-

tachment which have undergone necrosis "*en masse*" would seem to be a significant finding especially in relation to rapid deepening of the pocket. What appear to be fusiform organisms can be observed in some of the necrotic epithelial cells.

Cementum cuticle, in the pocket, in various stages and forms of disorganization is also to be noted. The close proximity of brush and cocklebur formations of organisms to the necrotic epithelial attachment and the broken-down cuticle, and the presence of swarming free fusiform organisms resembling those attached to the stalks have suggested the possibility of a causal relationship to the adjacent destructive processes. From a close examination of the specimens, with the

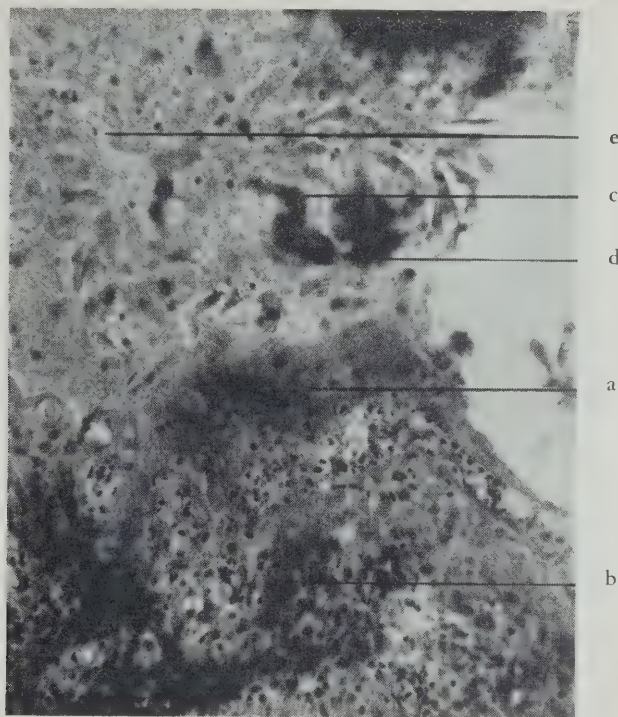


FIG. 4.

Higher magnification of part of Fig. 3 showing mass of necrotic epithelium and nearby brush-like and branching formations of radiating organisms.

- a. necrotic epithelium;
- b. vital epithelium;
- c. brush-like formation of organisms;
- d. branching formation of organisms;
- e. cellular debris of pocket.

necrosis, organisms invading the necrotic tissue, and cuticle destruction, it seems reasonable to suggest that the abounding free fusiform organisms and attached forms, play some role in the aetiology of the pathologic changes.

EPITHELIAL ATTACHMENT

The "epithelial attachment" has been defined by Orban (1928) as "that portion of the epithelium surrounding the tooth which is in organic connection with the surface of the tooth." It exists in the form of a band and is comprised of a few layers of stratified squamous epithelium. It has its origin in the enamel epithelium, a residue of the enamel organ which be-

comes attached to the completed enamel before eruption. When the tip of the tooth, during the course of eruption makes its appearance in the oral cavity, the enamel epithelium and oral epithelium are united, and the gingival margin and gingival sulcus are formed. The enamel epithelium now becomes known as the "epithelial attachment," a term given to this structure by Gottlieb. Later, through proliferation, the epithelial attachment moves downward along the surface of the cementum.

THE ENAMEL AND CEMENTUM CUTICLE

The epithelial attachment forms on the surface of the tooth a thin homogeneous keratinous layer known as



FIG. 5.

Low magnification of necrosis of the epithelial attachment. Note the disappearance of the nuclei of the epithelial cells in the upper portion of the attachment and the gradual transition into the normally staining vital attachment.

- a. necrotic attachment;
- b. vital attachment;
- c. subepithelial infiltration of inflammatory cells;
- d. cellular debris of pocket;
- e. cementum.

the cuticle. As it is found on enamel and cementum alike, the crown part is known as "enamel cuticle," and the root part "cementum cuticle." It joins the epithelial attachment and the tooth, and on separation of the epithelium from the enamel or cementum, it remains firmly adherent to the tooth surface.

It is specially resistant to acids and alkalis, but apparently is subject to disorganization by certain organisms that infect the sulcus or pocket (Box, 1943). This is probably accomplished through the action of keratin-hydro-

lysing enzymes elaborated by the organisms.

NECROSIS OF THE EPITHELIAL ATTACHMENT

In some examples, substantial portions of the epithelial attachment have undergone necrosis "*en masse*." In the part towards the pocket, the nuclei have largely disappeared with some small nuclear fragments still to be observed in the necrotic residue. Superficially, the necrotic tissue fuses with the soft cellular debris of the pocket. Fig. 5. Near the apical bor-

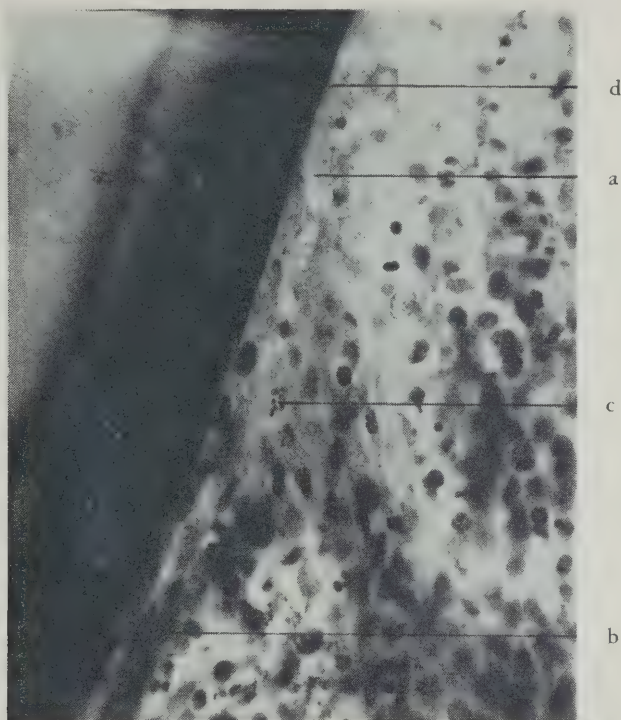


FIG. 6.

Higher magnification of part of Fig. 5 showing in greater detail the region of the attachment where the necrotic material blends gradually with the vital epithelial cells. Note the karyorrhexis of some nuclei in this zone.

- a. necrotic epithelium;
- b. vital epithelium;
- c. karyorrhexis of nucleus;
- d. cementum.

der of the necrotic portion of the attachment the tissue shows a gradual transition into vital epithelial cells. In this region, the nuclei of some of the epithelial cells exhibit certain morphological changes known as karyorrhexis. The chromatin of the nuclei has been broken up into small deeply-staining granules, an indication of death of the cells. Fig. 6.

DISORGANIZATION OF CEMENTUM CUTICLE

In some instances the cuticle appears to be unevenly swollen for some distance along the cementum with the formation on its surface of small protuberances. Each protuberance appears to have a crater-like orifice. In

other examples, the swollen cuticle presents an eroded appearance. Small perforations are to be observed, and, also fairly large rough-edged vacuoles within the cuticle are exhibited. These ragged excavations appear to be the result of a burrowing process into and within the substance of the cuticle. Occasionally large elevations, almost semicircular in outline, are present on the cuticle. Fig. 7. Cleavage of the cuticle into longitudinal fragments or shreds is commonly seen, with a few small remnants of cuticle material still adhering to the cementum surface.

THE PROBLEM OF SPECIFIC INFECTION

It has frequently been stated that

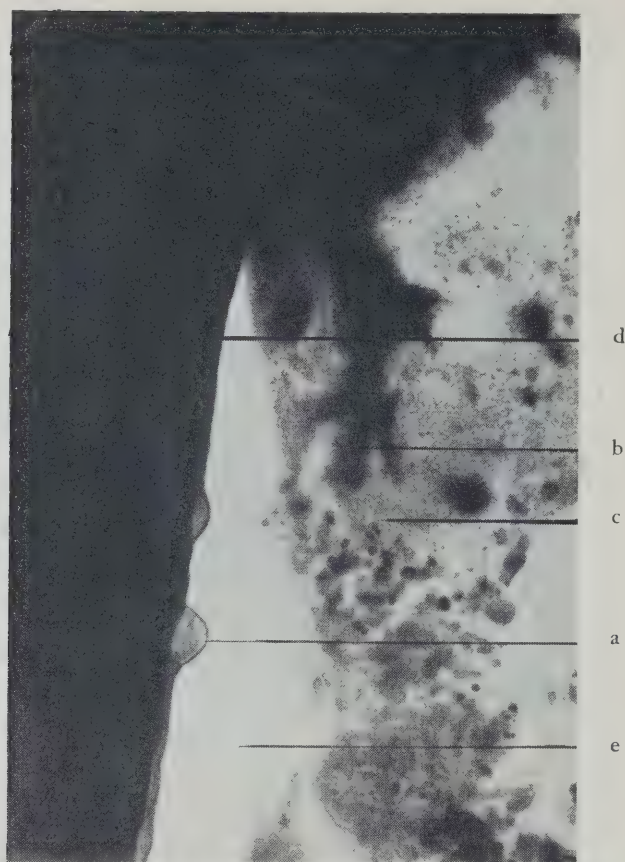


FIG. 7.

Fairly low magnification showing disorganization of the cementum cuticle. Two rounded swellings are shown. Also a large branching formation of bacillary organisms is shown in the adjacent homogeneous material of the pocket.

- a. rounded elevation or swelling of cuticle;
- b. large branching formation of organisms;
- c. homogeneous material of pocket;
- d. cementum;
- e. space due to shrinkage in preparing the section.

"pyorrhea", so-called, is not a specific infection (Miller, 1890; Kronfeld, 1933). As a rule the emphasis is placed on the occurrence of suppuration and the presence of microorganisms that possess pyogenic properties. Some workers have regarded "pyorrhea" as a disease caused by specific organisms (Kritchevsky and Seguin, 1921; Smith, 1932). Kritchevsky and Seguin considered the production of pus a product of secondary infection

after the field had been prepared by a necrotic process, with spirochetes in association with fusiform bacilli constituting the "necrotic agent." These investigators have called attention to the absence of pus, particularly in the early phases, in certain cases of "pyorrhea." This calls to mind the paradoxical term formerly used by older practitioners viz; "dry pyorrhea."

According to the viewpoint of

Smith, three factors are involved in the aetiology of "pyorrhoea" viz:

- "(a) general metabolic disturbances;
- (b) local metabolic disturbances;
- (c) a specific infection with a group of anaërobic organisms."

The foregoing evidence suggests that a form of periodontitis exists in which the infection is specific rather than non-specific in nature, and characterized by necrosis of the epithelial attachment with rapid apical shifting of the pocket base.

BIBLIOGRAPHY

- Aisenberg, 1933. Morphologic Studies of Microorganisms of Fusiform Type, *Dent. Cosmos*, 75:546.
- Beust, 1908. A Contribution to the Morphology of the Microorganisms of the Mouth, *Dent. Cosmos*, 50:594.
- Beust, 1929. Morphology and Growth of Fusiform Organisms, *Jour. Am. Dent. Assn.*, 16:714.
- Beust, 1929. Spirochetes and Fusiform Bacilli of the Mouth, *Jour. Am. Dent. Assn.*, 16:1415.
- Box, 1942. The Formation of Subgingival Calculus, *Jour. Can. Dent. Assn.*, 8:415.
- Box, 1943. A Periodontist Views the Caries Problem, *Jour. Can. Dent. Assn.*, 9:397.
- Davis and Pilot, 1922. *Jour. Am. Med. Assn.*, 79:944.
- Dean, M. T., 1931. Summary of Our Observations on Cultural Characteristics of Fusospirochetes, *Jour. Periodont.*, 2:104.
- Dean, R. D., 1931. Summary of Our Observations on Clinical Manifestations of Fusospirochetosis, *Jour. Periodont.*, 2:103.
- Dean and Dean, 1931. Cultural Observations on Fusospirochetal Infections, *Jour. Dent. Res.*, 11:759.
- Kritchevsky and Seguin, 1921. Local and General Spirochetosis, *Dent. Cosmos*, 63:888.
- Kronfeld, 1933. Histopathology of the Teeth and Their Surrounding Structures, Lea & Febiger.
- Miller, 1890. The Micro-Organisms of the Human Mouth, The S. S. White Dent. Mfg. Co.
- Orban, 1928. Dental Histology and Embryology, Rogers Printing Co.
- Smith, 1932. Oral Spirochetes and Related Organisms in Fusospirochetal Disease, The Williams & Wilkins Co.
- Tunncliffe and Jackson, 1930. *Jour. Infect. Dis.*, 46:12.
- Tunncliffe, 1938. Fusiform Organisms in the Mouth, *Jour. Dent. Res.*, 17:53.

Tooth Preparation Under a Flow of Water

by I. B. HYAMS, Capt. No. 24 Coy. C.D.C.

WITHIN recent times the spectre of painless drilling has been pursued by the dental profession with increasing success. To substantiate this claim mention need merely be made of the use of dentine obtundents and local anaesthesia. Although first recommended at the turn of the century, gas analgesia has come into common use only comparatively recently. Now more recently we see increasing reference in the literature to the use of a water spray to effect analgesia in drilling sensitive teeth. Although the use of a stream of water is well recognized in stoning to relieve occlusion or in dinking for crown and inlay preparations, the analgesic properties of

the stream method has not been widely taken advantage of in the preparation of teeth when using the bur.

The following experiment was undertaken to test the pain reducing properties of a stream of water directed over the tooth being operated upon. Drilling was first performed upon the tooth in the conventional fashion to establish the fact that the tooth was sensitive to drilling. A symptom of discomfort was elicited. The remainder of the operation was then performed under a stream of water. The grooves were extended and all the decay removed and overhanging enamel margins trimmed to the completed cavity form. The chair assistant di-

rected a stream of water over the tooth being drilled. The stream was directed as nearly as possible to the point of the drill. The saliva ejector withdrew the water after flowing across the tooth. In some of the lower cases a pool of water accumulated and the drilling was performed under this pool of water. Ordinary tap water was used. In several of the cases (four, to be exact) this was found to be too cold for comfort so the water was brought up to body temperature.

Of the twenty-five cases reported upon, two were mesiocluso-distobuccal preparations, ten were proximoclusal, four were occlusal, five were labial or buccal and four were anterior proximal preparations. In all these cases, drilling without the water produced uncomfortable symptoms. On using the water stream the operation was completed with very little further difficulty, and the invariable comment was on the absence of heat and the comparative lack of discomfort. Asked for comments, the following are typical of what were given: "It sure makes a difference," "Less painful because of less heat," "Very good; takes most of the pain away," "Better with water; easier to stand."

At this point a word of caution should be introduced with particular reference to very deep cavities. At first under a flow of water it is more difficult to gauge the depth of the drill in the tooth. A further complication is the lack of acute painful response that is ordinarily elicited when the heat generated by the drilling shocks the pulp thermally. As in other analgesic techniques, accidental exposure of the pulp is possible, but under careful operating discipline, with frequent stoppages to see the depth obtained this possibility is largely minimized.

As guidance for those trying this technique for the first time perhaps the most gratifying and least difficult type of case is the hypersensitive labial cervical cavity on an upper anterior. After confidence has been

established the contra-angle should be tried on an occlusal pit or shallow fissure cavity in the lower posteriors. Your experience will then guide you to undertake the more extensive cases.

Several instruments are on the market which make the direction of the stream of water coincident with the revolving of the dental bur. The stream starts flowing as soon as the bur starts revolving and stops as soon as the foot control is released. A metal tube is connected to the handpiece or contra-angle and directs the stream at the drill point. There is also available a saliva ejector with two long arms embracing the buccal and lingual sides of the arch and a series of perforations runs the full length of the arms. This would eliminate the pooling of water in the lower jaw operations. A surgical aspirator may be used also to good advantage.

One of the advantages of the method described is its cleanliness, in that particles removed from the tooth are carried away with the stream of water and do not obstruct the field of operation or clog the bur. Furthermore the danger of traumatizing the pulp of the tooth by overheating and possibly inducing the chain of pathological sequelae leading to pulpal necrosis is stopped at its source, namely the frictional heat caused by the rapidly revolving drill point applied against a resistant substance. I need merely mention the unexplained gangrenous pulps so often accompanying a hastily prepared jacket crown. Of equal importance is the fact that the patient can face the ordeal of drilling with a lighter heart and will not have to make a hero of himself in the dental chair. Finally and by no means the least important that feeling of tension which most dentists experience when drilling a sensitive tooth will be dissipated and the operator can rest back feeling that he has reduced the pain of drilling to tolerable limits and that he has really rendered a much needed service humanely.

The Forum

FURTHER THOUGHTS ON THE FUTURE TREND OF DENTAL PRACTICE

by J. LI. SAUNDERS, D.S.O., B.D.S.,

Director, Division of Dental Hygiene, Department of Health, Wellington.

Condensed from New Zealand D. Journal, April, 1944.

MY SUGGESTIONS are in the nature of a long-range plan. I wish to make this clear, and to ask you not to dismiss them at once as impracticable in the belief that I am proposing revolutionary changes in the immediate future.

Stated briefly, I envisage dental practice in the future as being in the hands of a limited number of highly skilled dental surgeons assisted by an organized team of auxiliary personnel. Chief among the latter would be trained dental nurses and skilled technicians. By trained dental nurses I do not mean dental attendants (although they, too, would form part of the team), but nurses trained like our New Zealand school dental nurses who would be able to relieve the dental surgeon of as great a proportion of routine treatment as the nurse in the medical team does in the case of the surgeon or physician. The State dental nurse is by no means new to this country. Her training and work are well known. She is under complete control professionally, and would continue to be controlled if her scope were widened in the manner suggested. The dental technician is in a different category. Youths are apprenticed to mechanical dentistry without any proper regard to the requirements of the profession, and the activities of dental mechanics are becoming in-

creasingly uncontrolled. They must be brought into the team, their number regulated, and their sphere defined. They should be trained in schools in accordance with a definite program, and made responsible members of the dental team. Working under the direction of the dental surgeon, the trained dental nurse, and the trained technician could relieve him of much routine work, thus leaving him free to devote his attention to the higher branches of dentistry, where his scientific training would have full scope. In this, preventive dentistry would play a prominent part. The objection will be raised that the public are not sufficiently interested in higher dentistry, and consequently would not be prepared to recompense the dentist adequately for his services. I think this is true at the present time, but I would repeat that I am not suggesting a revolutionary change on these lines this year or next, but I am asking you to consider the gradual evolution of dental practice in accordance with a long-range plan.

It would be difficult, if not impossible, to apply this plan to the present scheme of private practice, but I believe that dental practice conducted on such a basis would be perfectly practicable within the organization of a State service, and the trend today is towards State responsibility in these

matters. In a State service the dental surgeon would, it is hoped, be encouraged to practise in accordance with the highest ideals of his profession; he would be untrammelled by economic considerations; and in the course of time he would be assisted, to an extent perhaps not contemplated today, by a team of trained State dental nurses and skilled technicians, both of the latter trained in recognized schools in accordance with an approved curriculum, and employed within a clearly defined sphere.

Our aim should be to have a highly efficient, even if relatively small, professional body, well versed in up-to-the-minute scientific knowledge relating to the cause and prevention of dental disease, skilled in the most modern operative procedures, and fully capable of consultation with the medical, surgical, and research personnel of the health team.

By delegating the responsibility for

much routine work to auxiliary personnel working under his direction, the dental surgeon of the future would be able to devote his attention to what, for a better term, I have designated the higher branches of dentistry. I have in mind such things as preventive dentistry, diagnosis, prescribing and supervising the treatment to be rendered by auxiliary personnel, radiology, anaesthesia, orthodontia, oral surgery (including extractions) prosthesis, etc., as well as the more complex procedures in connection with the surgery of the teeth, and those matters that are included in the term "dental medicine." By thus organizing dental practice, it should be possible to maintain a highly efficient service with relatively fewer dentists to population, and in so doing solve two problems: First the urgent one of the impending shortage of dentists; and second, the equally important one of attracting the best type of student.

VINCENT'S INFECTION: OBSERVATIONS AND CONCLUSIONS REGARDING THE AETIOLOGY AND TREATMENT OF 1,017 CIVILIAN CASES

by A. FRANK STAMMERS, B.D.S. Birm.

Condensed from Br. D. Jour., March 17, 1944.

THE series of cases reviewed includes nine cases already receiving treatment on June 1, 1941, and all new ones admitted up to December 5, 1942, a total of 1,017 in a period of eighteen months.

It is perhaps noteworthy that the first great increase in the number of Vincent's infection cases seen at the hospital occurred in the winter of 1940-41, when Birmingham, in common with other industrial centres was experiencing periodical heavy air-raids, and almost nightly "Alerts". Similarly, the marked increase during the last quarter of 1941 was coincident with Birmingham's great production drive, commencing with the "Tanks for Russia Week" at the end of September.

The examination of the histories of this series of cases of Vincent's infection provides a most astonishing lack

of evidence of the epidemic origin of the disease.

No instances of patients residing in the same locality who might have frequented the same public houses were noted.

Innumerable occupations and places of employment were recorded, and surprisingly few of the patients were employed by any one firm.

In no instance have more than two members of the same family presented themselves for treatment.

Only 61 patients, 6 per cent of the total, had any knowledge of possible contact with infected persons, i.e. anyone who definitely had the disease, anyone with a bad breath or who complained of bleeding gums.

There was evidence of pre-existing pathological conditions in the mouths

of all patients with the exception of three.

In the light of these facts it would appear to be highly probable that the majority of the patients examined developed the disease autogenously rather than as the result of contagion. If the increased incidence were in any way due to an epidemic outbreak one would have expected to encounter a large number of instances of patients residing in the same house, or in the same area and perhaps frequenting the same public house, cafe, or dance hall, or working together in the same section or workshop. Many of the patients were in the habit of using works canteens, some regularly, and some occasionally, and so were associated with people from all sections of the works. No more can be said than that transmission of fuso-spirochaetal organisms may have occurred from one person to another providing the local conditions of the mouth of the recipient were suitably prepared. Similarly, all the sixty-one patients known or suspected to have been in contact with infected persons exhibited prior pathological lesions of various kinds. It can be concluded, therefore, that healthy individuals with really healthy mouths are immune to Vincent's infection with very rare exceptions.

It is the writer's opinion that the fuso-spirochaetal infection although primarily responsible for the ulceration which is an essential part of the Vincent's syndrome, must be considered of secondary importance in the inception of the disease; local predisposing conditions of paramount importance; and systemic factors merely contributory to the aggravation of the local trauma.

Among local causes the following were encountered: gross neglect, food stagnation, septic roots, calculus, overcrowding, faulty and traumatogenic occlusion, carious cavities, impacted and partially erupted teeth, mouth breathing, smoking, recent extractions, dust and metal filings at work, ill-fitting dentures. Among constitutional factors frequent colds and chronic catarrh

were the most common, some cases were associated with possible vitamin deficiencies and in a few instances recent illness, operations, pregnancy, etc. Overwork and lack of exercise were also complained of by some.

It is common knowledge that cigarette smoking has increased enormously during the war years particularly among women factory workers. Now it is the habit of most people when smoking at work to keep the cigarette smouldering between the lips. A cigarette smoked in this way will last a long time and thus even a moderate smoker will be keeping his lips apart and will be partially mouth breathing for a considerable part of the day. Similarly pipe smokers hold the pipe clenched between the teeth and the lips are slightly separated and not in contact with the gums. In both cases the habit of separating the lips is likely to persist when not smoking. Furthermore there is the irritating effect of the smoke itself. Of the seventy-seven heavy smokers, seventy-two had severe ulceration in the incisor region, some of them with extensive tissue destruction exactly opposite the place where the cigarette was normally held. Finally it was observed that when the patient was unable to desist from smoking during the period of treatment the total time to effect a cure was considerably increased.

The frequent association of colds with the disease, mentioned by most authors, may also be partly explained by the degree of mouth breathing caused. In this series one hundred and ninety-eight patients suffered from frequent colds or chronic catarrh, and the incisor region was involved in one hundred and sixty-three of these. Undoubtedly severe colds lower the general resistance of the body to disease and they must be regarded as important systemic contributory factors, but it would seem that their local effect is equally if not more serious.

Dietary, including vitamin deficiencies do not play a very big part in the aetiology in the writer's opinion.

Probable aetiological factors are ob-

vious if any significance may be attached to the coincidence of air raids with the increased prevalence of Vincent's infection. Disturbed nights continued over a long period of time were definitely responsible not only for lowered general vitality but also for great neglect of oral hygiene; refreshments taken during the night contributed to food stagnation; added to this there was a very considerable increase in the smoking habit both because of its sedative effect and for lack of anything else to do during periods of inactivity. All these factors

have been shown to be intimately associated with the cases under review and the writer believes that they were chiefly responsible for the first so-called epidemic in 1940-41. Conversely there is no evidence of vitamin deficiency at this early period of the war before strict rationing was in force. Many people ate and drank more during the air raids than in normal times and consequently any hypovitaminosis would have to be accounted for by imperfect assimilation rather than by reduced intake.

FACTORS INFLUENCING TESTS IN THE ABRASION OF DENTINE BY BRUSHING WITH DENTIFRICES

By RICHARD S. MANLY, Ph.D.

With the Assistance of F. A. SCHICKNER

From the Dental Research Department of the Procter and Gamble Company, Ivorydale, Ohio

Condensed from *Jour. of D. Research*, Feb., 1944

IN PREVIOUS experiments on solid-containing and solid-free dentifrices, no data had been obtained on dry brushes or on brushes moistened with water. There seems to be no published literature indicating an experimental basis for expecting wear by the brush alone, but opinion has been expressed that this is true. For this reason tests of the abrasiveness of the brush alone were carried out on the cross brushing machine. The average wear by a dry, medium-hardness, synthetic-bristle toothbrush was found to be 10 microns per 100,000 strokes. Among the individual experiments there were 5 teeth with no wear and 3 with the minimum measurable notch, 16 microns (0.5 mm. on the negatives). In the brushing experiments with water and in those with unthickened liquid dentifrice the wear was less than with the dry brush, probably because of the lubricating action of the liquid. Likewise the thickening agent in commercial liquid dentifrice probably exerts further lubricating action, for it was found that no wear was produced

by brushing with one of these products, either in the present or in the previous experiments. In comparison with abrasive-containing dentifrices, the brush itself appears to have negligible abrasive properties toward dentine since the average wear by leading pastes and powders (1939) amounted to 940 microns, of which a dry brush could account for only 1% of the total and a wet brush for only 0.5%.

Furthermore the hardness of the brush is apparently not a significant factor in influencing the wear by brushing dentine with or without abrasives. Tests with liquid dentifrice and 7 brands of hard-bristle brushes, including both synthetic and hog-bristle types, gave no indication of abrasion. In the presence of abrasives the wear of dentine appeared to be similar whether or not the synthetic bristle brushes had been softened with steam prior to the test.

It seems evident that abrasion of cementum and dentine will be obtained when teeth are brushed longitudinally. When the longitudinal and

transverse brushing figures are made comparable by calculating each to the wear per meter of contact with the brush, there is about 2 to 3 times as much wear with the cross-brushing. Such distinction might be expected from the tendency which the bristles possess for concentrating in the notch during cross-brushing, and diverging out of the notch during longitudinal brushing.

The difference between the wear obtained by cross-brushing and by longitudinal brushing of teeth raised the question of how much the shape of a test object influences the abrasion that it receives. Early in a test on abrasion by cross-brushing, the profile of the groove is U-shaped and as the wear proceeds the groove becomes progressively more wedge-shaped. On the average there was

about 9 times as much wear in the depressions as on the crests.

In other words, the formation of V-shaped notches is a fundamental characteristic of abrasion of dentine by brushing with abrasives, following as a corollary from the finding that abrasion is most rapid at the bottom of a notch. The process may be compared with the mechanical wear of a hillside by water, resulting in gullies which progressively deepen and thereafter account for the main loss of soil. Decalcification is not a factor of any significance in producing cervical notches in dentine. The extent of wear of acid-softened dentine by the moistened brush is about one-fifteenth of that which was produced by abrasives on acid softened dentine of the same teeth.

20th Annual Clinic of Montreal Dental Club

Mount Royal Hotel, October 25, 26, 27

Speakers:—Dr. Reed O. Dingman of Ann Arbor, Michigan, on "Oral Surgery".

Dr. Ralph Sommer of Ann Arbor, Michigan, on "Root Canal Therapy".

Dr. Ernest R. Granger of Mount Vernon, N.Y., on "Oral Diagnosis".

Dr. S. A. McGregor of Toronto, on "Children's Dentistry".

Major W. J. Linghorne, C.D.C. and Major W. G. McIntosh, C.D.C., on "Periodontal Disease".

Lt.-Col. W. J. Gibson, C.D.C., and Major R. Foote, C.D.C., on "Application of Rubber Dam".

Table Clinics by teaching staff of the Faculty of Dentistry, University of Montreal.

Group Clinics.

Motion Picture Films.

Exhibitors' Demonstrations.

Registration Fee \$10.00 including luncheon on Wednesday and Thursday.

Friday luncheon \$1.50 when speaker of great interest will be present.

EVALUATION OF ACRYLICS IN OPERATIVE DENTISTRY

by KENNETH C. WASHBURN, B.S., D.D.S., Instructor, Department of Operative Dentistry,
University of Illinois

Condensed from Fortnightly Review, Chicago D. Soc., May 1, 1944.

I AM certain that gingival acrylic inlays well retained between parallel walls will not pop out. Two surface acrylic inlays under the stress of mastication present a discouraging picture to those of us who are enthusiastic about the material. A large percentage of inlays placed in class II and class IV cavities were rather easily displaced. Re-cementation every few months was the rule. This displacement is due to dimensional change caused by the compression under biting force and the return to original shape when the pressure is released. This constant action caused a separation of the inlay from the cementation medium. The cavity surface of these displaced inlays revealed a tartar-like substance when examined under the magnifying glass and the greatest mass of the substance was at the margins which indicated that the loosening process was gradual. It is easy to imagine how a margin formed by a material as soft as methyl-methacrylate gives somewhat under a force approaching one hundred pounds. This flexion is sufficient to break the cement seal under the inlay for we know cement does not ad-

here to the plastic. There is cohesion but not adhesion. The gradual loosening process is the answer to some of the discolouration we observe about the margins of the plastic inlays. Food debris gradually finds its way between the cavo-surface angle of the tooth and the plastic. I have cleaned these discoloured inlays off in hydrochloric acid and then dipped them in carbon-disulphide to have the discolouration return. In some cases the discolouration was general throughout the surface due to porosity.

CONCLUSIONS

1. Acrylic inlays in class II and IV cavities were generally unsuccessful.
2. The stress of mastication can cause sufficient flexion in the plastic to break the cement seal.
3. Good results can be obtained in class V inlays where bulk can be obtained for retention.
4. Acrylic can be used with success in veneering gold to obtain the aesthetics of the plastic and the strength of the metal.
5. The injection technique proved to be the most successful method of processing acrylic inlays.

STUDIES OF THE EFFECT OF INGESTION OF CITRUS FRUIT UPON GINGIVAL HAEMORRHAGE

by STERLING V. MEAD, D.D.S.

Summary of paper in Jour. of D. Research, Feb., 1944

SEVENTY men were fed 1½ grapefruit per day in addition to the regular rations for 5 months. A group of 65 men on the same rations without added citrus fruit served as controls. Increased ascorbic acid blood

levels, increased ascorbic acid urine levels, improvement in gingival condition and in general health were observed. No deleterious effect on the enamel was noted.

"Give me health and a day, and I shall make the pomp of emperors ridiculous."



Editor: M. H. GARVIN, Winnipeg
Assistant Editor: T. R. MARSHALL, Toronto

Associate Editors:

PRINCE EDWARD ISLAND:

D. T. Waye, Charlottetown

QUEBEC:

E. M. Laurin, Montreal

SASKATCHEWAN:

F. C. Harwood, Moose Jaw

NOVA SCOTIA:

S. G. Ritchie, Halifax

ONTARIO:

T. R. Marshall, Toronto

ALBERTA:

John Clay, Calgary

NEW BRUNSWICK:

W. C. Carruthers, Saint John

MANITOBA:

J. F. Morrison, Winnipeg

BRITISH COLUMBIA:

H. M. Cline, Vancouver

The Coming Days

Courtesy and consideration have always been the keystones of successful business and professional life, and this should be kept in mind in these days of unusual stress and strain; otherwise, we may live to regret our actions.

Too often in the business world, we see indifference and sometimes even impudence as the result of war pressures and it makes one pause and consider as to whether any of these bad habits have crept, perhaps unawares, into professional life, as a result of the impossible task of giving all patients the service they expect.

There are unreasonable patients in every practice, but even these should be handled as diplomatically as possible, remembering that our wars will be over one of these days and the independent spirit which exists today will have vanished into thin air. The man who will continue to have a satisfactory clientele will be the one who right now realizes the value of courtesy and puts it into practice. If we have failed in this, we will find that our patients have good memories and will prefer the services of someone else later on. Then as usual, we will blame our plight upon everything except the real cause.

Of course, we must have a capable assistant who, with a smile, can explain to a patient why it takes twice as long as formerly to repair a denture; who can explain with equal ability, why the doctor is late for the appointment; or why perhaps a certain appointment has to be postponed for a week, granting that the particular work is not urgent.

If a patient is suffering from a toothache, he cannot wait for a week before obtaining relief and this necessitates arranging one's work so as to care for these emergencies. There was never a time when more thought is required in planning our work. To take the telephone receiver off the hook; to ask the central telephone office to discontinue one's phone temporarily as is done in some smaller centres; to simply close the office and go off fishing, is playing high and handsome with one's practice.

This does not mean that one should not have planned holidays. The brain must have diversion if one is going to think clearly. During leisure hours, some of the greatest ideas of all time have been born. While holidaying in Switzerland, the idea of wireless flashed into the mind of Marconi. While on an ocean voyage, Morse conceived the idea of the telegraph. Great ideas are not usually born when one is working hard with one's nose to the grindstone; they are released when the sub-conscious mind has an opportunity to come into its own.

While at Casablanca, Churchill took time to travel two hundred miles to paint a quaint old Moorish town. Roosevelt can relax by looking over his fine stamp collection. Both of these great men went fishing at the time of the first Quebec Conference. However, I am sure that these innovations did not detract from the solution of the tremendous problems facing these men but rather helped to make possible their solution.

Of course holidays and relaxation are essential and become increasingly important as one is pressed harder and harder with professional responsibilities; however it is necessary that these times off be planned and not just grasped at, to evade some obligation.

In part the answer would seem to be to keep more time than usual for emergencies; to postpone the making of extensive bridges and complicated pieces of dental work until the present emergency is over; to obtain all the ancillary help that can possibly be used; to so plan one's technique and procedures as to accomplish the very most in a given time; where possible to use a second chair; and to seek advice from one's dental supply manager or anyone else in the business world who can assist in solving these urgent problems.

Whatever the solution, one thing stands out predominantly and that is that no matter how busy we are, no matter how exasperating events prove themselves to be, no matter how weary we become in body and mind, to never lose that poise that would enable us to treat every patient with the greatest courtesy and the greatest consideration possible under the existing circumstances.

To say that national health insurance is just around the corner and that the government will provide lucrative positions very soon may prove to be a will-o-the-wisp that will become very disconcerting to the one who is not preparing himself by every means possible to meet the probable competition which will suddenly arise once demobilization takes place.

Just one little discourtesy because I am too busy to care, then another

and perhaps another! Just a hurried inferior filling here; I won't count this. I'll just neglect my recall list as there is some other work which seems more urgent. I'm too busy to see this patient who has a toothache and has been loyal to me for ten or twenty years. Let him go elsewhere this time. To such a one let me say that the Recording Angel is no myth. These deeds have been recorded in indelible ink. We may forget but the recorder "Memory" does not forget. What we do this hour, what we think this hour will be written into our character and appear later to bless us or plague us as surely as if we had recorded it all on some phonograph.

"We scatter seeds with careless hand,
And dream we ne'er shall see them more;
But for a thousand years
Their fruit appears,
In weeds that mar the land."

M. H. G.

BOOK REVIEW

SUPPLEMENTARY LIST CANADIAN DENTAL CORPS OFFICERS AS OF JULY 31, 1944

APPOINTMENTS

Rank, Name and Date	Civilian Address
Lieut. A. J. Colle, 12-7-44	Outremont, P.Q.
Lieut. R. H. Cohen, 12-7-44	Montreal, P.Q.
Lieut. G. M. Dundass, 12-7-44	Montreal, P.Q.
Lieut. C. L. Church, 12-7-44	Regina, Sask.

RETIREMENTS

Rank, Name and Date	Civilian Address
A. Major J. E. McMullen, 7-7-44	Ottawa, Ont.
Capt. J. Passalis, 23-6-44	Winnipeg, Man.
Capt. J. M. McCaffery, 25-5-44	Calgary, Alta.
Capt. H. R. Day, 14-5-44	Victoria, B.C.
Capt. H. B. Smith, 6-7-44	Vernon, B.C.

Lieut.-Col. O. A. Lefebvre, C.D.C., D.D.O., M.D. 12, Regina, Sask.

The Department of National Defence has recently announced the promotion of Major O. A. Lefebvre, C.D.C., to the rank of Lieut.-Colonel, and, his appointment as District Dental Officer, M.D.12, Regina, Sask.

Lieut.-Colonel Lefebvre is a graduate in Dentistry of McGill University, 1915, and practised his profession in Montreal. He served with the C.A.D.C. in World War 1. In January, 1940, he enlisted with No. 24 Coy., C.D.C., with Headquarters in M.D.4, Montreal, where he served as Adjutant and later as Company Commander until his present appointment.

He is a former Superintendent of dental clinics for McGill University, Resident House Surgeon to the Montreal General Hospital, and Provincial Dental Board Examiner. In addition, he is a past President of the Montreal Dental Club, and is a Governor of the College of Dental Surgeons of the Province of Quebec.

Lieut.-Colonel Lefebvre has two sons serving overseas, Lieut. P. A. Lefebvre, R.C.N.V.R., and, Cpl. Rodney A. Lefebvre, R.C.A.F, attached to R.A.F.



SUPPLEMENTARY LIST OF CANADIAN DENTAL CORPS OFFICERS, AS OF AUG. 31, 1944

APPOINTMENTS	
Rank, Name and Date	Civilian Address
Lieut. I. Siegel, 28-7-44	Glouce Bay, N.S.
Lieut. M. D. Godine, 12-7-44	Montreal, Que.
Lieut. D. O. McIntyre, 28-7-44	Singhampton, Ont.
Lieut. G. Chapnick, 28-7-44	Toronto, Ont.
Lieut. J. E. Millen, 28-7-44	Toronto, Ont.
Lieut. R. A. Tranter, 28-7-44	Niagara-on-the-Lake, Ont.
Lieut. E. S. White, 28-7-44	Schreiber, Ont.
Lieut. W. M. Rudell, 28-7-44	Guelph, Ont.
Lieut. M. Wertman, 28-7-44	Toronto, Ont.
Lieut. L. V. Taylor, 28-7-44	Toronto, Ont.
Lieut. K. J. Paynter, 28-7-44	Kingston, Ont.
Lieut. J. F. Methven, 28-7-44	Chatham, Ont.
Lieut. R. K. McGill, 28-7-44	Mitchell, Ont.
Lieut. A. G. Brown, 28-7-44	Toronto, Ont.
Lieut. W. A. Blanch, 28-7-44	Toronto, Ont.
Lieut. J. E. Fuller, 28-7-44	Windsor, Ont.
Lieut. C. H. Loucks, 28-7-44	Thessalon, Ont.
Lieut. L. T. Lightfoot, 28-7-44	Toronto, Ont.
Lieut. S. H. Bord, 28-7-44	Newmarket, Ont.
Lieut. G. L. Britton, 28-7-44	Guelph, Ont.
Lieut. E. H. Aite, 28-7-44	Toronto, Ont.
Lieut. C. R. Castaldi, 28-7-44	Sudbury, Ont.
Lieut. B. A. Kotseff, 28-7-44	East York, Ont.
Lieut. E. P. Downton, 28-7-44	Toronto, Ont.
Lieut. W. D. M. Wright, 28-7-44	Dundalk, Ont.
Lieut. V. A. Ovens, 28-7-44	Mt. Forest, Ont.
Lieut. B. J. Nolan, 28-7-44	Windsor, Ont.
Lieut. M. B. Pearlman, 28-7-44	Toronto, Ont.
Lieut. D. C. A. Mady, 9-8-44	Garson, Ont.
Lieut. N. A. Winograd, 28-8-44	Winnipeg, Man.
Lieut. S. Grano'sky, 28-7-44	Winnipeg, Man.
Lieut. V. L. Watson, 28-7-44	Dauphin, Man.
Lieut. R. J. McCarten, 28-7-44	Winnipeg, Man.
Lieut. L. Karr, 28-7-44	Winnipeg, Man.
Lieut. B. J. Levin, 28-7-44	Winnipegosis, Man.
Lieut. A. H. Cottick, 28-7-44	Dauphin, Man.
Lieut. M. Back, 11-8-44	Winnipeg, Man.
Lieut. M. Brook, 28-7-44	Winnipeg, Man.
Lieut. B. Atnikov, 28-7-44	Winnipeg, Man.
Lieut. S. Boroditsky, 28-7-44	Winnipeg, Man.
Lieut. W. F. Bobock, 28-7-44	Yorkton, Sask.
Lieut. R. Waldman, 28-7-44	Melville, Sask.
Lieut. R. I. Yorsh, 28-7-44	Wynyard, Sask.
Lieut. C. Sklar, 28-7-44	Prud'homme, Sask.
Lieut. J. M. Conchie, 28-7-44	Watrous, Sask.
Lieut. S. P. Klimaszko, 28-7-44	Bankin, Sask.
Lieut. M. J. Butler, 28-7-44	Assiniboia, Sask.
Lieut. M. P. Kutney, 28-7-44	Canora, Sask.
Lieut. H. W. Pascoe, 28-7-44	Wakarusa, Sask.
Lieut. A. C. Blue, 28-7-44	Saskatoon, Sask.
Lieut. R. R. Moscovitch, 28-7-44	Lethbridge, Alta.
Lieut. O. L. Lind, 28-7-44	Vancouver, B.C.
Lieut. W. A. T. Salter, 20-8-44	Victoria, B.C.
Lieut. J. G. Butler, 28-7-44	Princeton, B.C.
Lieut. N. Hirschberg, 28-7-44	Vancouver, B.C.
Lieut. W. J. Sproule, 28-7-44	Vancouver, B.C.
Lieut. A. L. Ogilvie, 28-7-44	Vancouver, B.C.
Lieut. F. K. Currie, 28-7-44	New Westminster, B.C.
Lieut. J. A. Allan, 28-7-44	Victoria, B.C.
Lieut. N. C. Ferguson, 18-8-44	New Westminster, B.C.
Lieut. L. W. Beamish, 18-8-44	Vancouver, B.C.
RETIREMENTS	
Capt. E. Quevillon, 21-7-44	Montreal, Que.
Capt. J. A. L. R. Geoffron, 14-7-44	Winnipeg, Man.
Major J. M. Grahame, 25-7-44	Winnipeg, Man.
Capt. A. B. Kaunken, 11-8-44	Tantallon, Sask.
Capt. P. J. Cheney, 31-7-44	Vancouver, B.C.

PROMOTIONS ANNOUNCED SINCE JAN. 1, 1944 FOR C.D.C. OFFICERS OVERSEAS

To be A/Colonel:

Lieut.-Colonel E. M. Wansbrough, M.M., E.D., A.D.D.S. (R.C.A.F.) Overseas.

Lieut.-Colonel J. F. Edgcombe, E.D., A.D.D.S., 1st Canadian Army.

To be A/Lieut.-Colonel:

Majors: K. M. Baird, W. L. Findlay, C. L. Strachan and J. P. White.

To be A/Major:

Captains: H. A. Banks, H. N. Beach, K. C. Berwick, G. A. Brass, L. C. Cameron, A. M. Clark, E. T. Cleveland, C. R. Collard, S. K. Cogle, O. W. Crumme, C. J. Egan, J. M. Gabriel, A. Gardiner, S. E. Greenberg, C. L. Griffin, D. G. Hilliard, B. R. Jones, C. S. Lea, D. H. J. MacDonald, G. H. MacDonald, J. A. McDougall, A. Mintz, W. S. Murray, F. M. Murray, D. R. Stewart, W. R. Stuart, and G. B. Thurston.

PROMOTIONS FOR THE CANADIAN DENTAL CORPS RECENTLY ANNOUNCED BY N.D.H.Q.

Name	Coy.	Promoted to	Effective Date
Major H. A. McClean	52	A/Lieut.-Col.	30 May, 1944
Major O. A. Lefebvre	32	A/Lieut.-Col.	30 July, 1944
Capt. J. D. Brown	36	A/Major	26 May, 1944
Capt. C. G. Stewart	36	A/Major	26 May, 1944
Capt. J. E. Jackson	21	A/Major	3 June, 1944
Capt. C. C. Smart	23	A/Major	3 June, 1944
Capt. J. A. Stewart	32	A/Major	29 June, 1944
Capt. R. C. McLaughlin	39	A/Major	28 June, 1944
Capt. C. A. Ruddell	21	A/Major	1 July, 1944
Capt. C. H. Avery	22	A/Major	1 July, 1944
Capt. N. Gouruff	24	A/Major	29 June, 1944
Capt. W. J. Arnold	38	A/Major	3 July, 1944
Capt. D. W. Wilkinson	45	A/Major	30 June, 1944
Capt. H. M. Lampa	50	A/Major	30 June, 1944
Capt. H. P. Bishop	22	A/Major	7 July, 1944
Capt. W. G. McIntosh	36	A/Major	7 July, 1944
Capt. R. L. Twible	TTC	A/Major	7 July, 1944
Capt. W. J. Smith	HQ	A/Major	9 June, 1944
Capt. J. G. Pilkey	22	A/Major	7 July, 1944
Capt. N. J. Quigley	33	A/Major	15 July, 1944
Capt. H. Macpherson	HQ	A/Major	17 June, 1944
Capt. A. S. Webster	50	A/Major	17 July, 1944
Capt. W. J. Netherton	52	A/Major	21 July, 1944

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE OFFICE OF THE SECRETARY

Meeting of C.D.A. Executive Committee

The Executive Committee met in the Terrace Room, Chateau Laurier, Ottawa, July 16-18.

The following resolution was passed:

"That due to the numerous and persistent complaints from individual practising dentists and dental organizations all across Canada and concurred in by all legal bodies and presented by them to the C. D. A. for action, that the fee schedule of the D.P. & N.H. is most inadequate, the Executive Committee of the C. D. A. do recommend to the D.P. & N.H. that a new schedule of fees, in harmony with present day conditions, be adopted at the earliest moment".

A Progress report was made of the activities of the Research Committee in making application for an Associate Committee of the National Research Council.

Presentation was made respecting the need of a publication containing concise information respecting the dental profession in Canada, suitably written for the prospective dental student. It was reported that some initial progress has been made toward this objective and the matter was now turned over to the Committee on Dental Education. Direction was given that the project be proceeded with as rapidly as possible.

The Association has received several requests respecting the possibilities of a group life insurance policy for its members. Some discussion ensued respecting such insurance now in force with other similar associations, and the following resolution was passed:

"Resolved that the Secretary be instructed to investigate the possibilities of Group Life Insurance by contacting companies at his discretion, for information and figures".

The following statement was forwarded to the proper government officials with regard to the training of dental technicians:

"The Canadian Dental Association is of the opinion that it is not in the best interests of the public to train additional men in the vocation of dental technician under the training provisions of the post-discharge re-establishment Order P.C. 7633. The reasons for this statement may be summarized as follows:—

1. In a recent survey of civilian dental personnel dated February 1943, conducted by this Association, the ratio of dental technicians to members of the dental profession was found to be 1 to 3.28.

2. The Canadian Dental Corps has now in its ranks or formerly in training approximately 500 dental technicians. After demobilization of these technicians, and the members of the profession in military services, the ratio will stand at one technician to 2.8 dentists.

3. The Association is strongly of the opinion that the ratio as above indicated is too high. After the last war dental technicians who had been trained in the Corps found difficulty in securing civilian employment. As a result with the little knowledge gained respecting the practice of dentistry they attempted to engage in illegal practice. It is this situation which the Association seeks to avoid.

4. In the post-war event that the membership of the profession increases it is pointed out that dental technicians can be trained in a much shorter period than dentists in order to balance any decrement which may become apparent.

As a consequence, it is the considered opinion of this body that men discharged from the forces should not be encouraged to seek training as dental technicians under the training provisions of the post-discharge re-establishment Order P.C. 7633.

Progress Report of the Research Committee

The Research Committee of the C.D.A. held a meeting on June 26 to consider further the relationship of dental research to the National Research Council. The result of the many meetings which have been called for the purpose of deliberating upon this subject, is the following resolution which was adopted unanimously by the Committee.

"Whereas, research is essential to the prevention and control of disease of the teeth and other structures of the oral cavity, and

Whereas, the control of such diseases is paramount in the attainment and maintenance of a satisfactory state of public health, and

Whereas, the health of the nation is vital to maximum effort, and

Whereas, it is the opinion of this Committee that close cooperation with medicine and the basic sciences is most desirable it is also the considered opinion of this Committee that the dental problems are best understood and appreciated by those engaged in the dental profession, and

Whereas, the dental profession has made a significant contribution to the war effort in the field of research.

Therefore, the National Research Council be and are hereby petitioned,

(a) To establish an Associate Committee for Dental Research.

(b) To provide the monies necessary to support the work of the Associate Committee.

(c) To convene a conference of representatives of all recognized groups interested in Dental Research.

The function of this conference would be to confer with the President of the National Research Council concerning the personnel of the Associate Committee on Dental Research and the scope of its duties and responsibilities".

A subcommittee comprising Brig. F. M. Lott, Dr. Harvey Reid, and the Chairman, were appointed to wait upon the Acting President (Dean C. J. MacKenzie) of the National Research Council in Ottawa, to present this resolution and request that it be brought formally before the National Research Council at its regular meeting in September. The delegation was cordially received by Dean MacKenzie on July 19, and the resolution was presented to him.

Following this meeting with Dean MacKenzie, the subcommittee recommended to the Research Committee that a well organized effort be made by the Research Committee to contact each member of the National Research Council prior to the September meeting, with the objective in mind of informing the National Research Council members of the status of research within the dental profession. Any suggestions relative to this approach would be welcome.

R. G. Ellis, D. D. S.,

Chairman, Research Committee.

Income Tax

Several letters have been received during recent months complaining of the unjustness of several matters relating to income tax.

Request is made that the Association take some action.

The most usual complaints received are that no allowances are made for expenses attending convention, post-graduate courses, etc., and that no consideration is given, respecting the use of the dentists' own automobile.

However, there are other serious matters in this regard such as are indicated in a letter written by a member of the legal profession to the president of a dental association and forwarded to this office. The letter reads as follows:

"I am writing to you as I understand you are the President of the local Dental Association, to bring up a matter in connection with Income Tax that vitally affects all the professions as well as the small business men. Section 11 of the Income Tax Act, subsection 4 (b) and (c) reads as follows:—

(b) Income earned during the life of any person, shall, when received after the death of such person by his executors, trustees, or other like persons acting in a fiduciary capacity, be taxable in the hands of such fiduciary.

(c) Income taxable under the provision of this subsection shall be taxed as if such income were the income of a person other than a corporation, provided that no deductions may be made under Rule 5 of Section One and Rules 1, 3, 4 and 5 of Section 2 of paragraph A of the First Schedule to this Act.

The effect of subsection (c) is that no deductions whatever can be made from the amount of income, not even the \$660.00 exemption, and that the rates are those of a single person.

What this means is that in case a professional man dies, and has outstanding book accounts uncollected at his death, and his executor collects them afterwards, not only must the estimated realizable amount be included in the estate for Succession Duty purposes, but the Income Tax comes along and says that you must pay Income Tax on the full amount collected at the rates of a single person without any deductions or exemptions. It does not need much thought to see that this works a very great hardship. The case which brought it to my attention was one of a member of the medical profession who died recently, that is last year, leaving a widow and four children under

twenty-one. On an amount of approximately \$2000.00 book accounts collected in the last year period the Income Tax wants over \$900.00 tax and on an amount of \$1500.00 collected this year so far they want over \$600.00 tax, the total tax on the two amounts being around \$1600.00. I do not know how this would appear to you but to me it appears to be a monstrous situation and one which requires some action to remedy it. I am writing a similar letter to the head of the local Medical Association, suggesting that the various organizations take this up, and perhaps the dentists could bring it be-

fore the provincial body and we could do the same and perhaps get some action".

Inquiry has been made respecting some action towards obtaining alleviation. We have consulted those in a position to know the best procedure. The advice given is that it is rather hopeless at the present time to expect any adjustment which may reduce the tax as none have been allowed for a considerable period and the suggestion is made to wait for a more favourable time. Again it has been proposed that as these injustices equally concern all the professions a combined action should be attempted.

NEWS FROM THE PROVINCES

ONTARIO:

Toronto East Dental Society

The largest attendance on record was on hand at the society's annual fall golf tournament held at Cedarbrae Club on September 13. President Anthony Vince and secretary Roy Kerr with Leon Hipwell and Gordon Knowles composed the golf committee and they were rewarded for all their trouble by a splendid patronage. Among those present were Dean Arnold Mason, Harold Skilling, Pres. of the Toronto Academy; Bob Marshall, Prse. West End Dental Society with a goodly number of his West Enders. North Toronto too was well represented by Russel Bennett, Jimmy Evans and George Sirrs.

Prize winners were:

First Flight

Low gross, Leon Hipwell

Low net, Claire Smythe

Second Flight

Low gross, J. "Mac" Reveler

Low net, Gord Mullen

2nd low gross, Anthony Vince

Low net first 9, Fred Loucks

Low net second 9, Gordon Murray

Visiting contest prize winners were:

Low gross, Jack Walsh of Perth and Lt.-Col.

Gibson, C.D.C., equal

Low net, Ralph Huffman

Second low gross, Jim Evans

Second low net, Gordon Johnston

Low first 9, Norm Dales and Walter Dawson, equal

Low second 9, George Sirrs and Russel Bennett, equal

•

Eastern Ontario Dental Association

The sixty-seventh annual meeting of this association was held in Ottawa on September 18 and 19. There were one hundred and fifty dentists and guests registered in attendance. Dr. D. L. McKerracher of Arnprior presided at all sessions in his own free and easy style, combining on all occasions vigour, humour and enthusiasm with leadership to keep everything running smoothly. In his opening remarks he made his guests feel very welcome, then he graciously gave credit to his executive colleagues for the fine arrangements for the convention. Speaking of our Canadian Dental Association he said "Let us remember it is our mouth piece. Our delegates to our national association are guided by the way that you and I feel towards our profession and by the care and thought we give its future. Let us not hesitate individually and collectively to pass on to these delegates our suggestions that may help to evolve the best program for better dental health of our people."

Following the president's address, Mr. Harry Hall gave a discussion of plastics. He was followed by Dr. Pett, director of nutrition, Department of National Health, who addressed the meeting on "Food in relation to teeth".



DR. D. L. McKERRACHER

This was an important lecture which will later appear as a manuscript in this journal. The program continued with Dr. R. G. Ellis giving a "Classification and Treatment of traumatized teeth in young patients". Dr. Ellis has given this work much study and leaves many fine suggestions for dealing with difficult problems often encountered.

The Eastern Ontario Dental Association, which has given a prominent place to Dental Public Health on its program for several years, did so again this year. The occasion was given a special emphasis by a gift of \$50. to the Dental Public Health Committee of the Ontario Dental Association. A further interest was shown by appointing the retiring president, Dr. D. L. McKerracher, to represent the society in the Dental Public Health Council of Ontario. This year Dr. H. J. Hodgins, director of dental services with Drs. R. P. Lowery and T. R. Marshall from the Ontario Dental Association committee were guest speakers. The discussions featured the importance of dental health education as a professional responsibility. It is the task of every dentist to create a better knowledge of the advantages of good teeth in health and pro-

mote an understanding of known methods of combating dental disease through proper hygiene, proper diet and early professional care. It must be a co-operative effort between teachers, nurses and parents given leadership by dentists for the benefit of children.

Dr. W. C. McCartney, Chairman of the secondary school board in Ottawa, arranged student assemblies in each of the secondary schools during the convention. Drs. Harold Swales, R. P. Lowery and T. R. Marshall were privileged to act as guest speakers on the invitation of the school board.

The program of the second day featured Dr. J. S. Dohan of McGill University, Dr. Charles Williams of Toronto University, Major J. C. Foote of the Canadian Dental Corps and Dr. V. O. Lucia of New York. These members of the profession are widely known for their ability and contributions in dental science.

The social functions planned for entertainment of members and guests were most enjoyable. The golfers played their tournament at the Ottawa Hunt Club. A special luncheon was arranged which included ladies, where Dr. W. D. T. Atkinson, principal of Glebe Collegiate, was the speaker. Again a convention dinner was arranged with Mr. Pedou of Montreal as speaker. These functions were a delightful diversion from the scientific program.

The meeting was brought to a close by a business meeting and election of officers for 1944-45. They are as follows:

President—Dr. A. A. Cameron, Ottawa
 Vice-Pres.—Dr. C. M. Purcell, Pembroke
 Sec.-Treas.—Dr. L. R. Braden, Ottawa
 Auditors—Dr. W. C. MacCartney, Ottawa,
 and Dr S. W. Bradley, Ottawa

Advisory Board—Dr. L. M. MacKerracher, Arnprior; Dr. H. L. Stewart, M.P.P., Kingston; Dr. R. L. Currie, Ottawa; Dr. I. F. Calder, Brockville; Capt. John French, Ottawa; Dr. Geo. Barrett, Ottawa; Dr. A. Couture, Ottawa; Dr. W. A. Weatherhead, Sharbot Lake; Dr. N. M. Stevenson, Avonmore; Dr. L. M. Martin.

**R. G. Ellis, B.D.S. (Adel), D.D.S., M.Sc.
(Dent.), Given Promotion**

In a recent announcement of promotions from the University of Toronto, the name of Dr. R. G. Ellis appears as Professor of Operative Dentistry and Director of the Dental Clinic in the Faculty of Dentistry.

He graduated from Adelaide University in Australia in 1926. He came to Canada to continue his studies and obtained his D.D.S. from Toronto University in 1931 and later won his MSc (dent) for postgraduate achievement. He received his first appointment on the Faculty of Dentistry Staff in 1931 as a demonstrator in prosthetics. In 1936 he was transferred to the operative dentistry department with the rank of Associate in Dentistry. In the summer of 1934 he spent some time studying in Guy's Hospital, England. This new recognition of Dr. Ellis' ability as a dental scholar and as a teacher will receive wide approval in the profession.

•

Lieut. H. G. W. Bean Decorated

It is reported that Lieut. George Bean, son of Lt. Col. Harvey and Mrs. Bean, has received the Military Cross for valour in Normandy. Lt. Bean was wounded in action which occurred in June but has now recovered and is back in France. In April 1941 he enlisted as a private with the Queen's Own Rifles and proceeded overseas in July of the same year. One year later he came home for his officers training, then returned to his unit in England. Many friends of Harvey and Mrs. Bean will rejoice with them in this merited honour that has come to their son.

•

**Ontario Dental Nurses' and Assistants'
Association**

This Association is looking forward to a successful year under the capable leadership of Mrs. Irean Checkley Bruce, President. Irean Bruce has been active on the Executive for several years, and as an acknowledgement of the time and efforts spent on our behalf, she was awarded the coveted Achievement Trophy last May.

Patriotic Donators and Knitters Club:

The following report of the Patriotic Donators and Knitters Club is ample proof

that our War Convener, Mrs. Leta Blaber, and her committee were not idle during the summer months. On June 16, twenty-two boxes were packed for overseas, containing approximately one thousand items of toilet goods, stationery, knitted goods and general comforts. During the month of July, we shipped six dozen chocolate bars direct to the 10th Canadian Hospital, overseas, and from the used clothing donated, we were able to pack and mail nine boxes to England for blitzed families. The Staff at the Children's Hospital, Portsmouth, was delighted when our box of all-new sleeping gowns arrived.

All parcels have been received and acknowledged. Cables, air letters, and letters of appreciation that are constantly coming in are sufficient encouragement to "carry on."

We have a market for all de-capped car-pules. Will you set aside a box in your office for anaesthetic tubes?

Our wounded men are returning from Europe and much work lies ahead for us in our Military Hospitals before we terminate our Government War Charter. We are proud of the "Book of Records" for the five years of war. Let us put our best into the final chapter.

Arlene Jemison Greeny,
Publicity Convener.

ONTARIO DENTAL Nurses' and Assistants'
Association Board of Governors

1944 - 45

President, Mrs. Irean Checkley Bruce,
371 Keele St., Toronto.

1st Vice-President, Mrs. Lucile Ryder, 601
Medical Arts Building, Hamilton.

2nd Vice-President, Miss Doris Gregory,
171 Colbeck St., Toronto.

Recording Secretary, Miss Helen Dosman,
15 Wellington St., Brantford.

Corresponding Secretary, Miss Margaret
McAuliffe, 195 Dundas St., London.

Treasurer, Miss Anne Kirkland, Medical
Arts Building, Kitchener.

Archivist, Mrs. Marion Edwards, 760
Spadina Ave., Toronto.

War Convener, Mrs. Leta Blaber, 148 1/2
Bloor Street, W., Toronto.

Publicity Convener, Arlene J. Greeny, 62
Richmond Street, W., Toronto.

ALBERTA:**Edmonton Dental Society**

About twenty-five Edmonton dentists turned out September 14 for the fourth and final golf meet of the year at Mayfair Golf Club, Alberta.

Prizes were awarded by the Ash-Temple and Denco Companies.

Dr. Kendal was in charge of the arrangements. Dr. Hawkins presided at the dinner.

We are sorry to announce the death of Mrs. H. E. Bulyea, wife of Dr. H. E.

Bulyea who for twenty years was Director of the School of Dentistry in Edmonton.

Sincere sympathy is extended to him at this time.

•

Dominion Dental Council Examination

The Dominion Dental Council Examination will be held in Edmonton, January 2 to 6, 1945. All fees should be in the Secretary's office not later than December 1, 1944.

A. J. BRETT, Sec.-Treas.
Regina, Saskatchewan.

EMPIRE NEWS**GREAT BRITAIN:****Chairman of Dental Board**

Dr. E. Wilfred Fish, M.D., Ch.B., D.Sc., D.D.Sc., L.D.S., has been appointed by the Privy Council to be Chairman of the Dental Board of the United Kingdom for a period of five years from July 26, 1944.

Doctors and the White Paper

A preliminary analysis of the replies of members of the British Medical Association to the questionnaire issued by the British Institute of Public Opinion brings out some points which are of interest to the dental profession. Sixty per cent of those who replied to the questions were in favour of accepting the principle that the whole population should be included in the health service as against 37 per cent who were in favour of excluding those in the upper income groups. The percentage in favour of the establishment of health centres was slightly higher, approximately two out of every three of those who replied approving the suggestion, although there was considerable diversity of opinion as to the exact type of centre which was favoured. On the assumption that adequate compensation is paid to existing owners of practices, 56 per cent. were in favour of the principle of buying and selling general practices being abandoned, but only 30 per cent. believe that it will be possible for private practice by general practitioners to continue under a national health service. To the more general question, "With

the introduction of a national health service, do you think that the quality of the country's medical service will be enhanced or will suffer," 32 per cent. replied that it would be enhanced, 12 per cent. that it would be unaffected, and 44 per cent. that it would suffer. The reaction of 53 per cent. was unfavourable on the whole to the White Paper and 51 per cent. would not regard medicine as an attractive profession if a national health service, as contemplated in the White Paper, was introduced.—Br. D. Jour., Aug. 18, 1944.

Medical Education

According to the Goodenough Committee's report, financial considerations are no longer to influence the opportunity of anyone taking up medicine as a career, and to combat this difficulty there is to be a system of Exchequer grants to medical schools. There is, however, a proviso to this clause which will possibly cause perturbation in certain quarters, and this is that, in order to qualify for these grants, the medical school must take women students up to one-fifth of its total numbers. A further excellent suggestion is that all unsuitable students should be "weeded out" by the end of the first year.

In addition to cutting out all superfluous detail, the Committee recommend that Social Medicine, Child Health and Psychiatry should feature more prominently in the medical curriculum, whereas special departments should only teach material necessary to the general practitioner. Specialist train-

ing would be confined to post-graduate teaching, and general practitioners would be able to keep up to date by establishing more

intimate contact with their local consultants.
—Excerpts from Guy's Hospital Gazette, Aug. 19.

GENERAL NEWS

Penicillin in Dentistry

Certain salient features of penicillin therapy hold out hopes that in future it may be of great value in the treatment of dental diseases. Penicillin is lethal to many of the organisms found in mouth infections and this, coupled with the fact that it has been successfully used in the treatment of closed cavities and sinuses, suggests that it may be used successfully to treat periapical and similar dental infections. The suggestion that it may be of value in the treatment of caries or periodontal disease, is perhaps open to doubt for a number of reasons, but its ability to act in spite of pus, blood and other hindrances when applied topically cannot fail to be of use in dealing with infected wounds in and about the mouth. Its power to combat many of the sulphonamide resisting organisms will make it a valuable form of treatment in those serious cases of cellulitis, which sometimes develop following an acute dental infection.

—*Medical Press, per Dental Record.*

United States' Attention to be Directed to a Program of Health and Physical Fitness

A plan, national in scope—to improve the health and physical fitness of all future Americans has recently been launched by the Joint Committee on Physical Fitness.

Leaders of all organizations, churches, clubs, medicine, dentistry, nursing, hospitals, schools, colleges, management and labour are being asked to cooperate.

Realizing that if a program of physical fitness was to be made successful the active cooperation of medicine was essential, the Committee submitted a proposal to the A.M.A. to join the movement. Last June the A.M.A. accepted the proposal and a guiding committee composed of five members appointed by the A.M.A. and five members appointed by the National Council on Physical Fitness under the chairmanship of Colonel

Leonard G. Rowntree was appointed.

The American Dental Association is represented on the Committee by President C. Raymond Wells.

The Special Emphasis Year on Physical Fitness is planned to start throughout the country, September 1, 1944.

The purpose of the Special Emphasis Year on Physical Fitness is to direct the attention of the public to its responsibilities for a stronger, healthier home front necessary for the successful pursuit of the war and for the peace that will follow victory. It is also part of the plan to effect increased activity on the part of all public and private agencies capable of influencing public opinion, providing programs, and operating them wherever possible.

"One of the basic reasons for this Special Emphasis Year on Physical Fitness," said Colonel Rowntree, "is the constant stream of reports continuously coming in to Selective Service from industry and labour, local boards and induction stations, indicating lack of physical fitness not only among the general population, but especially among the youth of the nation."

The experiences of the Nation in times of war and distress have established beyond question the vital necessity of developing and maintaining in each individual the utmost self-reliance, physical fitness, and mental and physical health.—A.D.A. Bulletin

Newburgh, N.Y.'s Fluorine Experiment

Dental history is in the making as the attention of the nation is centered on two New York communities which are engaged in a mass demonstration to test the theory that a minute amount of fluorine in drinking water is the way to banish tooth decay.

Kingston, N.Y., will be the town with toothaches. Newburgh, also on the Hudson river, will be the lucky one without if the experiment is a successful one.

The battle against dental caries in the New York towns has been given nationwide publicity and the August 13 issue of Science Service, weekly science page syndicated to hundreds of newspapers, devoted a five column feature to a detail report of the experiment.

Fluorine, chemical sister of the chlorine that many communities put into their drinking water to purify it, has been in dental headlines on many occasions. As more and more evidence began piling up to show that a small amount of fluorine in the drinking water protected teeth from decay, many thought something should be done about it.

The New York State Department of Health decided it would do something about it. So, under the direction of Dr. David B. Ast it is staging a long range demonstration which may prove conclusively the practicability of mass protection against tooth decay by the simple measure of adding a little fluorine to public drinking water.

Newburgh, a town of 30,000 population, already has some 0.12 parts per million of fluorine in its water. To the three million gallons of water the city uses daily will be added about 45 pounds of fluoride salt. This will bring one part per million of fluorine in the water as it flows from every tap and faucet in Newburgh.

Newburgh's five to 12-year-old children for the next 10 years will have their teeth examined in the schools by the associate research dentist of the State health department. Since fluorine acts on the tooth structure during the years of tooth development, it will be about 10 years before the full benefit of the water treatment will be realized.

The control group in this mass experiment to test whether tooth decay can be banished by adding fluorine to drinking water also will be children in Kingston.

Says Science Service:

"Every proper scientific experiment of this sort, whether on human or laboratory guinea pigs, must have its control or check run. A group as much alike as possible is selected. One-half gets the new treatment, the other does not. Every other condition is kept as nearly identical as possible. In that way, with the treatment the only variable factor, scientists can feel sure that if any difference appears in the treated group, it

was due to the treatment and not to other variable factors.—A.D.A. News Bulletin

Industrial Hygiene

Columbia University, through the DeLamar Institute of Public Health, announces intensive instruction in the dental aspects of industrial hygiene during the week beginning December 11, 1944.

The curriculum is intended for those responsible for or interested in the dental aspects of industrial hygiene, for dentists already working in this field, and those who foresee the probability of being associated with future developments in this phase of dental practice.

Attendance will be limited to twenty-five. Persons other than dentists, in exceptional circumstances, may be admitted. Applications will be considered in the order received. The registration fee will be \$25.

For further information, address,

The Director

DeLamar Institute of Public Health

600 West 168 Street

New York 32, New York

Public Health

by E. G. McGAVRAN, M.D., St. Louis, Mo.
Excerpt from Am. J. of Ortho and Oral Surg.,
July, 1944.

As a country, we have basked in a security of artificial isolation—a false security, in a world insecure against disease. Let me illustrate by one example—yellow fever. Until recently we have felt secure against the ravages of this disease by the application of strict "maritime quarantine" which prevented ships that touched at the two known endemic centres from entering our ports without proper preventive measures. The length of voyage from endemic centres to our ports insured the fact that yellow fever would have developed among exposed persons long before such ships could have reached our ports. Now we are faced with a realization that aeroplanes leaving these yellow fever-ridden areas can be in our country in a few hours, carrying infected persons as well as infected insects, and, further, that the circumscribed extent of endemic foci is a matter of error, as we have discovered recently that yellow

fever is carried by jungle animals and may be transmitted to man by man specimens of mosquito. This immeasurably expands the areas that are a potential hazard to the return of yellow fever in the United States, as aeroplane travel immeasurably increases the risk.

Today our troops are returning loaded with tropical disease—almost to a man—with malaria, with filariasis, and with many conditions that will not show themselves for years. Malaria has us worried and baffled. It is not alone that four out of five casualties in our Armed Forces are due to malaria; it is not alone that in one military operation 33,000 casualties were caused by malaria where only 405 were caused by military weapons; it is not alone that the Army freely teaches that the first nation to conquer malaria will win the war; it is not alone that the increased number of carriers in our communities at home will expose us to possible epidemic of malaria. The malaria-carrying mosquitoes are the third most common mosquitoes even in such populous centres as St. Louis County. It is also true that the disease itself has apparently become much more resistant to all methods of treatment, and that many cases returning are having repeated remissions not controlled by the drugs that heretofore have been considered as certain remedies.

Daily Dental Air Service to Russian Guerrillas

A first-hand account of medicine in Soviet Russia at war was given to the London Daily Telegraph by a British surgeon following his return from Russia.

One of the most surprising things he mentioned was that there is a regular air service to Russian partisans fighting behind the German lines.

"We send them medical help. We also send dental surgeons to the guerrillas," the British surgeon was told. "They go and return every day. If a man has an accident with his denture, a mould is taken, flown to Moscow, and a new set flown back".

For certain wounds for which the attention of a plastic surgeon is urgent, the Russians have a remarkable organization.

They have formed their specialists into

teams, so that the young men go nearly up to the front lines. Patients get proper treatment immediately after being wounded and before they reach the base hospitals.—Dental Mag. & Oral Topics

Russia

Excerpt from Banting Memorial Lecture

by JOHN R. WILLIAMS, M.D., F.A.C.P.,
Rochester, N.Y.

An English investigator recently stated that Russia socially and intellectually in 1914 was at the cultural level of England in 1800, but that in the succeeding twenty-five years she had covered as much ground as had Britain in a century. Regardless of our views as to the implications of Russia's political philosophy, the student of scientific research would do well to study her achievements. As stated, the Soviet Union is devoting a far larger share of her total income to scientific and social research and education than any other nation in the world, ten times that of Britain, and 40 per cent more than the wealthy United States. Most of what has been accomplished is the result of less than ten years' efforts. At the end of the first World War, Russia's large scale industries were practically destroyed, less than one-seventh of the pre-war state. By 1925 they had reached three-fourths of the pre-war level, but still were small. At the end of 1937, Soviet industry exceeded that of Great Britain and Germany, and was second only to the United States.—Can. Med. Assoc. Jour.

Demand Bank Deposits in U.S.A.

Demand deposits of individuals increased by some 45 percent from June of 1942 to June of 1943. Presumably they made further important increases to June of this year. The new data we have on this subject have been compiled by the Securities and Exchange Commission through a study of more than 23,000 checking accounts taken at random in 111 banks located in 86 different communities. The accounts ranged in size from less than 100 dollars to over 25,000 dollars, and the average size in June of 194 was 2,457 dollars.

Accounts of lawyers were larger than those of doctors, and these in turn were larger than

accounts of dentists. The increases were in the reverse order, for the dentists had increases of 90 percent in the year, while the accounts of doctors increased by 42 percent, and those of lawyers by 16 percent.—Cleveland Trust Co.

Nazis Put Teeth in Dental Decree

Now comes Dr. Ernst Stuck, described by a Nazi DNB agency broadcast as "the Reichsfuehrer of dentists," with a set of detailed rules for dentists and dental surgeons in Germany.

Care of patients is restricted "to measures that are really urgent." Such "desirable treatment" as the installation of dental bridges is prohibited.

Crowns may be placed on teeth and a single tooth may be filled "Wherever the dentist or surgeon considers this necessary to preserve the tooth or its roots."

On the other hand, "teeth with deep cavities or with roots, the tops of which have become affected, shall be removed, as proper treatment would require too much time."

DNB said "dentists nowadays have to do an extraordinary amount of overwork," and added:

"The population is expected to show its appreciation of these measures, and all citizens are requested to pay attention to all proposals of dentists and dental surgeons based on the new rules and postpone additional requirements until after the war."

From: Chicago Sun, August 8, 1944, per A. D. A. Bulletin.

Identification of Full Acrylic Dentures —Dental

A U.S.A. War Department Bulletin, T B Med 44, 25 May 1944, provides for the marking, with individual name and Army serial number all newly processed full acrylic dentures, uppers and lowers, and all full dentures relined, rebased or repaired. The Bulletin outlines the techniques to accomplish such marking at the time the dentures are inserted or during the processing in the laboratory.

This is one more method now employed by the Army to identify men who have lost other means of identification. It will be useful in identifying individuals who have been in an aeroplane wreck, tank, car or other mishaps.

Enormous Human Teeth Recently Discovered

Gigantic fossilized human teeth six times as big as modern man's and twice as big as a gorilla's have recently been discovered, reports Science News Letter, by Dr. R. Von Koenigswald in a Chinese apothecary's shop.

Hints of the former existence of outsize ancient men were first discovered in Java. The Javanese giants, in the opinion of Dr. Weidenrich, may have been of "the size, stoutness and strength of a big male gorilla." Further search for more complete remains of these giants must await the expulsion of the Japs from both China and Java.—Science News Letter, per A. D. A. News Bulletin.

IN MEMORIAM

Dr. S. B. Moorehead of Chicago, died in the Presbyterian Hospital on August 29. He was internationally known as an oral and plastic surgeon. He pioneered in giving dental education university status.

He served as Professor and Head of the Department of Oral and Plastic Surgery at the University of Illinois from 1913 until his death and was Dean of the College from 1913 to 1926.

. . . SECTION FRANÇAISE . . .

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenant, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Venne, D.D.S., Grand-Mère

RÉDACTEUR

ALCIDE THIBAudeau, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

Mortification Pulpaire sans Carie

par le DOCTEUR P. LAJEUNESSE, D.D.S.

Nous savons que la pulpe dentaire peut être mortifiée par d'autres causes que par l'évolution de la carie bien que celle-ci en soit de beaucoup la cause la plus fréquente. Ce sont des gangrènes qui semblent spontanées parce que la raison n'en est pas manifeste ou encore une inflammation endogène, parce qu'on suppose que le mal se développe dans la masse pulpaire elle-même sans venir de l'extérieur.

Depuis longtemps on avait observé cette affection. Austen et Harris en décrivent une forme spéciale basée sur plusieurs observations. Dans chacun des cas, la mortification s'était opérée si insidieusement qu'on ne soupçonna ni la présence de la maladie, ni une altération de structure avant le changement d'aspect ou de décoloration de la dent. La mort de la pulpe n'avait pas été précédée du moindre signe d'inflammation. Elle semblait résulter d'un manque de l'énergie vitale suffisante pour subvenir aux fonctions nutritives.

Ceci nous amène donc à des considérations d'ordre générales que j'ai prises dans le volume de Frey et Huppe "Pathologie de la bouche et des dents". Les gangrènes primitivement aseptiques peuvent être dues à une cause directe ou indirecte; dans le premier cas, le tissu est lésé par un agent extérieur (écrasement, brûlure, caustique), dans le second cas, la nécrobiose est due à des troubles circulatoires ou à une altération du sang (infections, diathèses, intoxications) ou encore à des *troubles trophiques* (troubles de nutrition des tissus). Les gangrènes peuvent être d'origine artérielle, veineuse, dyscrasique et nerveuse.

Les gangrènes artérielles sont dues à un arrêt de la circulation dans le territoire dépendant d'une artère obstruée par une embolie ou d'endartérite oblitérante (syphilis, alcoolisme, sénilité).

Les gangrènes veineuses ont pour cause, soit un arrêt de la circulation de retour par compression, soit une thrombose (coagulation du sang à l'intérieur d'un vaisseau sanguin).

Les gangrènes dyscrasiques, celles des diabétiques par exemple sont provoquées par l'insuffisance de la nutrition cellulaire et par l'extrême affaiblissement de la défense.

Au nombre des gangrènes nerveuses se rangent :

1e—les gangrènes trophiques (décubitus, acutus des hémiplegiques, escarres sacrées après certaines fractures de la colonne vertébrale).

2e—les gangrènes par spasme des vaisseaux artériels par exemple le spasme des artères terminales des doigts comparable à celui que l'on suppose se produire au niveau des coronaires dans l'angine de poitrine. Après avoir rappelé ces notions générales les auteurs les utilisent pour classer les gangrènes pulpaire et comprendre leur étiologie.

Donc 1—*Gangrènes d'origine vasculaire*

a—Un traumatisme brusque, une luxation de l'articulation alvéolo-dentaire entraînant une nécrobiose pulpaire, par suite de la rupture du cordon vasculo-nerveux apexien. De même au cours de la cure radicale de la sinusite maxillaire la curette peut et doit provoquer des mortifications pulpaire en sectionnant les vaisseaux dentaires qui cheminent sur le plancher du sinus.

b—Un traumatisme lent occasionne des accidents pulpaire : tel l'antagonisme vicieux dans les cas de malposition.

c—De l'artérite oblitérante ou une thrombose veineuse des vaisseaux dentaires au niveau l'espace parapexien constituent, avec la mobilisation anormale, une des causes de nécrobiose pulpaire la plus probable au cours de la polyarthrite alvéolo-dentaire.

2—*Gangrènes d'origine dyscrasique*

Les intoxications (saturnisme, alcoolisme), les troubles de la nutrition, les infections—typhoïde, grippe, syphilis, doivent présenter au point de vue de la pulpe dentaire, les mêmes conséquences nécrogènes qu'au niveau des diverses régions de l'organisme où elles ont été déjà constatées. Reclus dit qu'il est permis en tous cas de penser que ces divers états dyscrasiques, en altérant la nutrition cellulaire et en diminuant la défense générale de l'organisme, constituent des causes prédisposantes générales importantes.

3—*Gangrènes d'origine nerveuse*

On ne sait pas s'il existe des mortifications pulpaire ressortissant au même mécanisme que celui de la gangrène symétrique des extrémités, c'est-à-dire causées par un spasme des vaisseaux artériels, mais le fait semble probable. Les gangrènes pulpaire d'origine trophique s'observent chez les vieillards et chez les tabétiques.

Les nécrobioses de la pulpe sans carie sont presque toujours aseptiques et c'est pourquoi, comme je l'ai mentionné plus haut, elles peuvent rester silencieuses pendant longtemps et même passer inaperçues, cette gangrène peut tout de même devenir septique.

Dans une étude symptomatologique sur les affections pulpaire sans carie (L'Odontologie, 30 mai 1911) Maurice Roy a mis en relief ces symptômes dont la connaissance peut être, dans la pratique, du plus haut intérêt. Les symptômes objectifs étant difficiles à reconnaître, il découvrirait de ses observations que les symptômes subjectifs jouent un rôle plus important. C'est toujours la douleur qui attire l'attention du malade sur son affection. Cette douleur légère au début, peut devenir extrêmement violente et diffuse au bout de quelques jours ou revêtir un caractère névralgique, qui, avec l'état d'intégrité apparente des dents, peut amener facilement une erreur de diagnostic. Un point intéressant c'est la localisation précise que les malades font

de leur mal; alors que plus tard les douleurs pourront s'irradier à toute la face, le malade au début ressent très nettement les douleurs au niveau d'une seule dent, ce n'est pas une indication absolue mais un signe précieux.

La maladie débute assez brusquement: le malade perçoit un jour une sensibilité assez vive généralement au froid sur une dent jusque-là insensible et qu'il indique d'une façon très nette. Ces douleurs ne s'observent qu'au moment des repas et sont provoquées par des changements de température; peu à peu elles augmentent d'intensité, puis, au bout d'un temps variable, quelques jours, quelques semaines, parfois davantage, elles peuvent s'irradier dans tout un côté de la face. Les douleurs se produisent alors par accès, le jour comme la nuit, sans provocation apparente, sans que les mouvements de mastication paraissent avoir d'influence sur elles. Les dents restent toujours plus ou moins sensibles au froid. Ces douleurs ne sont pas des douleurs fulgurantes comme dans les névralgies faciales; elles sont moins vives, mais plus profondes; il semble à certains malades que leur dent va éclater.

L'inspection ne dénote rien de spécial tant que la mortification pulpaire n'est pas totale et ancienne. Mais ce Mr. Roy insiste sur la percussion. La percussion est le mode d'exploration qui fournit les indications les plus utiles; elle devra être pratiquée avec grands soins et étudiée par comparaison sur les différentes dents de la région, car la sensibilité qu'elle provoque est généralement très légère et ne peut s'établir que par comparaison. Il convient de faire une différence suivant que la percussion s'exerce dans le sens longitudinal des dents ou dans le sens transversal. A la période de début la percussion longitudinale ne révèle aucune différence entre les dents; seule la percussion transversale de la couronne permet de déceler quelque différence. La raison en est que, dans la percussion longitudinale, le choc est ressenti par l'apex de la dent et le ligament radiculaire; par suite, si celui-ci est indemne, le choc ne provoquera aucune sensibilité. Dans la percussion transversale de la couronne, le ligament n'est pas impressionné, mais les vibrations imprimées à la dent par le choc sont transmises bien nettement à la pulpe. Si cet organe est sain, les vibrations ne déterminent aucune douleur; si au contraire il est enflammé, même légèrement, elles déterminent une légère sensibilité que le malade saura le plus souvent reconnaître si on lui fait établir une comparaison entre la dent incriminée et les dents contiguës.

Donc, à la période du début, la dent dont la pulpe est altérée présente à la percussion transversale une légère sensibilité comparée aux dents voisines; au contraire, à la percussion longitudinale, on ne remarque rien d'anormal.

Au contraire, lorsque les lésions sont plus avancées, dans les pulpites rétrogrades par exemple, on peut observer de la sensibilité de la dent à la percussion transversale qui, elle, ne manque presque jamais.

La sensibilité au froid est très vive dans la dent malade: pour la déceler, le meilleur moyen est le stypage au chlorure d'éthyle: on projette du chlorure d'éthyle sur un petit tampon d'ouate qu'on applique successivement sur les différentes dents de la région, et cette exploration détermine ordinairement une douleur vive dans la dent dont la pulpe est altérée.

La sensibilité de l'ivoire à l'excision ou à la trépanation de la dent n'a qu'une valeur très relative pour affirmer l'état de santé de la pulpe; car, si cette sensibilité indique que cet organe n'est pas complètement détruit, elle ne prouve pas qu'il n'est pas en voie de désorganisation; il en est de même de la sensibilité de la pulpe, car celle-ci peut être sensible et néanmoins être le siège d'altérations graves, puisqu'elles entraînent pour les malades qui en sont atteints des douleurs intolérables.

Plus tard, quand la pulpe est réellement et totalement mortifiée, la dent prend une teinte qui la distingue très nettement des dents voisines. Elle a une coloration gris ardoisé, terne.

Si l'on examine la dent avec une lampe électrique placée entre elle et l'œil de l'observateur, la translumination décele une tache sombre entourée d'une zone claire.

La sonorité d'une dent dont la pulpe est détruite n'est plus la même que celle de la dent saine. A la percussion, elle rend un son mat. La radiographie sera d'un précieux secours pour découvrir une lésion apexienne, parapexienne, et même un trajet fistuleux.

Ce sont surtout les dents monoradiculées qui sont atteintes de mortification pulpaire et particulièrement les incisives inférieures, peut-être parce qu'elles sont plus particulièrement exposées aux traumatismes. La fréquence de cette localisation est due, en outre, à des dispositions anatomiques particulières signalées par Jossu (Dans sa thèse de Paris 1908 sur la mortification de la pulpe dentaire d'apparence spontanée et ses complications). "Les incisives inférieures peuvent être considérées comme des organes doublement terminaux" dit-il "tandis que leurs antagonistes sont vascularisées par une anse qui ne fournit qu'à trois dents qui s'anastomosent avec les branches voisines. Les incisives inférieures reçoivent l'extrémité de la branche dentaire inférieure qui a déjà fourni à toutes les dents de la demi-mâchoire et qui a émis aussi le rameau mentonnier et dont les anastomoses transosseuses sont minimes. L'artère leur arrive comme épuisée, circonstances qui peuvent contribuer à favoriser les troubles circulatoires de la pulpe".

Complications—S'il est possible comme nous l'avons vu, que la pulpe une fois mortifiée ne détermine pendant longtemps aucun accident, il n'en est pas moins vrai qu'en général il survient des complications car la nécrobiose peut être suivie d'infection secondaire telles que ostéoarthrite aiguë ou chronique, abcès, fistules mentonnières surtout, pelade, éruptions cutanées, phénomènes vaso-moteurs qui sont le résultat du retentissement de l'infection sur le trijumeau.

26, rue Bagot, Québec.

Pathologie générale et stomatologie

Répercussions cutanées des irritations bucco-dentaires

La face et la moitié antérieure du crâne dépendent du trijumeau; le cou et la moitié postérieure du crâne dépendent du plexus cervical superficiel. De plus, trijumeau et plexus cervical superficiel sont en connexion par des anastomoses en surface et par l'union intime de la racine descendante du trijumeau avec la 1^{re} paire rachidienne. Il en résulte que le *nerf trijumeau est le nerf le plus réflexogène du corps*, car: les terminaisons des nerfs maxillaires supérieurs se réunissent pour gagner le ganglion de Gasser; de là on passe au bulbe et on descend le long de la racine descendante du V vers la première paire cervicale. De plus, la racine sensitive du trijumeau est unie à tous les noyaux bulbaires du sympathique. Cette spécialité "réflexogène" du nerf V est du reste utilisée en clinique pour les investigations organo-végétatives: réflexe oculo-cardiaque, réflexe palato-cardiaque, réflexe naso-facial (l'irritation de la muqueuse nasale produit de la congestion faciale) et conjonctivale, du larmolement et une légère mydriase. Réflexe dento-facial (une pulpite peut donner les mêmes signes que le réflexe naso-facial). (Une irritation gastro-intestinale ne peut-elle pas donner de l'acné, de l'érythrose, etc., et les modifications utéro-annexielles ne provoquent-elles pas l'herpès cataménial, le masque de la grossesse?)

Bref, toute excitation du trijumeau "dentaire" agit constamment sur le cuir chevelu et la face. Mais cette influence est soumise à la valeur de l'état général, l'intensité de l'excitation et la modalité de l'irritation: ceci pour les irritations aiguës; s'il s'agit au

contraire d'irritation "chronique", on n'a plus des troubles réflexes, mais des troubles trophiques (eczéma, acné, pelade).

Répercussions sensibles des irritations bucco-dentaires

Chaque groupe dentaire a sa répercussion "sensitive" nettement limitée à tel ou tel territoire cutané:

Généralement l'origine pathologique est limitée à "une seule pulpe lésée", mais si l'état général est mauvais, il peut y avoir extension allant jusqu'à une demi-tête.

Répercussions sudorales des irritations bucco-dentaires

Sont produites par toute lésion "brusque et intense" de la pulpe; parfois s'étendent jusqu'aux paumes des mains.

Répercussions thermiques des irritations bucco-dentaires

Il s'agit d'hyperthermie locale (surtout génienne, aussi au pavillon de l'oreille—quelques dixièmes de degrés, jusqu'à même 1 ou 2 degrés). S'accompagne généralement d'érythrose.

Répercussions vaso-motrices des irritations bucco-dentaires

Surtout l'érythrose faciale et notamment celle d'origine dentaire, gingivo-dentaire (cause: évolution dentaire ou lésion dentaire). Exemple: feu de dents des nourrissons, pulpites aiguës avec perception des battements artériels et sensation tant objective que subjective de chaleur.

Quelles sont les répercussions dentaires sur les dermatoses?

Au cours des pulpites et des arthrites, on rencontre souvent de la folliculite. Il y a certainement aggravation de l'acné polymorphe juvénile par les irritations dentaires aiguës (arthrites, ostéo-périostites, troubles évolutifs). L'âge de cette affection coïncide généralement avec celui de l'évolution des dents de sagesse; de plus, dans son étiologie, nous retrouvons à la fois une influence génitale et une influence "gastro-intestinale". Or, une insuffisance de mastication, due à des lésions dentaires, peut évidemment provoquer une certaine aggravation de l'acné. Il nous paraît logique d'admettre que: 1° évolution de la dent de sagesse + 2° troubles digestifs. + 3° puberté = acné polymorphe juvénile.

Dans l'ECZEMA, les lésions buccales ont une action indirecte: insuffisance masticatoire, diminution de l'insalivation, d'où pyrophagie ou infections focales—troubles dyspeptiques du foie ou de l'intestin—ces troubles conduisant à une intoxication chronique; de plus, il ne faut pas négliger une certaine action "directe" de ces lésions buccales qui agiraient par "réflexes" (face ou crâne). Il est fréquent de rencontrer chez l'enfant de "gros eczémats" de la face lors des éruptions dentaires, eczémats qui récidivent à chaque nouvelle éruption.

Les troubles pileux.—La papille du poil contient des vaisseaux "nourriciers du poil", au follicule pileux extrêmement complexe et sensible. Ce sont des nerfs sympathiques et des nerfs sensibles. Il en résulte que toute excitation vive et prolongée du trijumeau donnera des "sensations douloureuses" au niveau des cheveux et de la barbe. A signaler dans ces sensations l'importance des pulpites et des arthrites alvéolo-dentaires aiguës (Rousseau-Decelle cite le cas d'une femme atteinte de lésions alvéolaires et qui présentait, du côté de ces lésions, des cheveux plus ternes et plus courts que du côté opposé).

La canitie diffuse est beaucoup plus nette du côté des lésions alvéolo-dentaires chroniques; de même, dans la canitie localisée (un cas du côté de la moustache à la suite d'une dévitalisation d'une incisive latérale par l'arsenic). L'auteur pense qu'il faut tenir compte d'une certaine prédisposition (thyroïde?).

Dans la *dépilation diffuse*, les irritations buccales aiguës ont aussi une grande importance.

La pelade.—Cette affection survient généralement à la suite d'une crise subjective dans le domaine du trijumeau et fréquemment il s'agit d'une crise gingivale ou dentaire. (Ce fut déjà l'opinion de Jacquet en 1903.) Actuellement, tout le monde est d'accord pour conclure que *certaines pelades sont d'origine dentaire*. En fait, les causes buccales sont beaucoup plus "alvéolaires et gingivales" que dentaires proprement dites. En effet, une irritation pulpaire aiguë agit sur *toute* la sphère du nerf V de façon diffuse et fugace; une irritation alvéolaire agit sur *quelques* fibres du V de façon continue et répétée (vraisemblablement, ces fibres sont toujours les mêmes pour chaque alvéole). Et c'est précisément cette constance dans l'irritation qui donnera des "troubles organiques profonds et durables".

Caractères cliniques de la pelade.—Les pelades à "aires petites et peu nombreuses" suivent généralement (quelques jours à 3 mois) un épisode dentaire. Il y a toujours hyperesthésie des points d'émission du nerf du même côté; parfois érythrose, hyperthermie locale, etc. Guérison par la suppression de la dent.

Quant aux *grandes pelades*, elles ne sont jamais d'origine dentaire. Il faut aussi tenir compte qu'il y a une certaine prédisposition à la pelade (hérédité et déséquilibre endocrino-sympathique? air de famille chez certains peladiques).

En règle générale, on peut dire que dans 10% des cas, il n'y a que des causes dentaires; dans 25% des cas, les causes dentaires prédominent. D'autre part, les causes dentaires peuvent n'être qu'adjuvantes, en ce sens que, modifiant le trophisme cutané de la région, elles favorisent l'action d'autres irritations, qui, sans cela, n'auraient pas été agissantes.

Les localisations peladiques

Conduite à tenir.—S'il s'agit de dents en évolution, débrider ou extraire.

S'il s'agit de lésions chroniques, le traitement est variable:

a) selon le siège: région peu apparente, traitement "non" d'urgence; région très apparente, traitement plus urgent.

b) selon le moral du malade: optimiste, traiter les dents par soins conservateurs (surtout dans le cas de lésions dentaires éparses non encore "peladogènes"), neurasthénique, traitement "radical".

c) selon la nature et l'importance des lésions: radio et extractions.

Remarque importance.—Parfois les extractions aggravent la pelade, mais ce n'est que passager. Ceci prouve le lien étroit unissant les lésions dentaires et les lésions pileuses.

Résultats du traitement.—Se manifestent déjà 4-5 semaines après la mise en état de la bouche, car il y a repousse de poils follets.

Les nerfs

Les *paralysies* intéressant la bouche ont trait aux nerfs trijumeau, facial, glosso-pharyngien, pneumogastrique, spinal, grand hypoglosse, tous ces nerfs pouvant subir "isolément" une paralysie.

Il y a de plus, les *paralysies associées* (syndromes de Jackson, de Tapia, des quatre derniers nerfs craniens, du trou déchiré postérieur de l'espace rétro-parotidien postérieur, tous ces syndromes intéressant la bouche).

Les névrites

Les névrites peuvent avoir une origine interne et générale: ce sont les *polynévrites* (intoxication, infection, dyscrasie). Elles peuvent être aussi de cause externe et locale (traumatisme, compression, infection localisée).

Ces polynévrites sont rarement de cause dentaire, buccale (type de polynévrite: diphtérie).

Beaucoup plus intéressant nous paraît le *mal perforant buccal*. Son origine est inconnue. Malgré sa rareté (60 cas depuis 1868), il semble utile de jeter un coup d'œil sur sa symptomatologie: 1° Chute des dents sans douleur ni saignement. 2° Résorption alvéolaire allant jusqu'à la *perforation*. 3° *Anesthésie* de la muqueuse autour de la perforation. 4° Il y a ou non infection suivant qu'on a affaire à la forme "nécrosante" (troubles trophiques et infection) ou à la forme "résorbante" (troubles trophiques seuls).

Forme résorbante du mal perforant buccal.—Evolution silencieuse et indolore; mobilité progressive des dents jusqu'à la chute, indolore et sans saignement. Cicatrisation normale, mais la lyse alvéolaire est rapide, jusqu'à gagner le corps de l'os (communication avec le sinus, parfois avec le nez). Cette perforation reste longtemps sous-muqueuse; dans la muqueuse s'est formée une "ulcération cratériforme". Puis, disparition des procès alvéolaires au point de laisser une rigole tout autour du palais. Il ne reste finalement plus ni muqueuse, ni os, et le regard peut pénétrer directement dans le sinus ou le nez, à travers la perforation. Il résulte de ces lésions que le maxillaire inférieur déborde de partout le supérieur. Il s'ensuit également des signes fonctionnels: voix nasonnée, reflux par le nez, par le sinus et ce d'autant plus, qu'il y a anesthésie à la douleur et à la température, ainsi qu'au contact.

Forme nécrosante du mal perforant buccal.—Prodromes douloureux, agacement des dents, crises de névralgie faciale, congestions et fluxions; suppurations péri-dentaires (genre pyorrhée). L'infection secondaire ajoute l'*ostéoclastie* (sequestres) à l'*ostéolyse*. Il se produit des sequestres quelques jours ou mois après la chute des dents; parfois les deux ensemble. Ici, nous trouvons parfois des hémorragies (dues à la déchirure des vaisseaux de la zone para-nécrotique et non aux vaisseaux du paquet vasculo-nerveux).

Evolution.—1 à 7 ans. Une fois la perforation constituée, elle ne grandit plus, mais elle ne guérit pas. Il y a parfois coexistence de ces lésions aux deux maxillaires, mais l'inférieur, n'étant pas un os creux, ne présente pas de perforation; par contre, l'os s'amincit jusqu'à se réduire au diamètre du petit doigt; quant à la nécrose, elle est encore plus rare au maxillaire inférieur.

Etiologie.—Pour Rousseau-Decelle, on oublie trop souvent que la dent, dans son alvéole, est une *articulation* comme toutes les autres; et ici, il est rigoureusement logique de rapprocher le mal perforant buccal des "ostéo-arthropathies" que nous trouvons dans le tabès.

Anatomie pathologique.—1° Névrite du trijumeau; 2° troubles trophiques consécutifs dans un territoire donné (muqueuse, périoste et os) avec anesthésie et résorption osseuse (troubles circulatoires, d'où dénutrition et décalcification osseuses); 3° inertie de l'organisme contre les influences extérieures, d'où "petites causes, grands effets".

Diagnostic.—En présence d'une *alvéolyse rapide et indolore*, sans pyorrhée et avec une *anesthésie de la muqueuse gingivale* tout autour, puis ensuite *perforation*, voir l'Argyll-Robertson.

Traitement général.—S'il est nécessaire, lors des perforations, de placer une prothèse, il la faut "étendue" (pour répartir l'effort masticatoire) et en tout cas sans "suction".

Troubles nerveux d'origine dentaire

Rappel anatomique.—Les branches du trijumeau se distribuent d'une part à la pulpe des dents, d'autre part aux plexus alvéolaire et gingival; or les noyaux centraux du trijumeau dans le bulbe, sont en rapport avec un grand nombre de nerfs voisins; de même pour sa longue racine inférieure qui traverse la protubérance, le bulbe et la moelle cervicale. Dans la protubérance, la racine inférieure du trijumeau est croisée par la branche ascendante du facial et croisée par la racine vestibulaire de l'auditif. Dans le bulbe, elle est traversée par les faisceaux radiculaires du IX, puis par les faisceaux du X. Dans la moelle, cette même racine inférieure est traversée et divisée

en deux par les fibres radiculaires des deux premiers nerfs cervicaux. Bref, suivant l'expression de Bonnier: "dans sa portion intrabulbaire, le trijumeau semble s'étaler comme les mains d'un pianiste sur le clavier des noyaux bulbaires".

A la périphérie, le trijumeau s'anastomose avec les nerfs de l'œil, le facial, le pneumogastrique, le grand hypoglosse, et les nerfs cervicaux. De plus, il présente des connexions avec le sympathique (ganglions ophtalmique, sphéno-palatin, optique, sous-maxillaire, sub-lingual; les fibres sympathiques qui vont à ces ganglions s'y rendent par les fibres mêmes du trijumeau).

Ce rappel anatomique prouve bien que le trijumeau est le nerf le plus réflexogène du corps.

Hyperesthésie des troncs nerveux.—Les irritations dentaires donnent une exaltation du trijumeau, surtout de la branche innervant la dent touchée, mais aussi dans l'une ou l'autre branche homolatérale. De plus, on décèle une douleur sous-occipitale "par pression" lors de l'évolution de la dent de sagesse (pression là où le nerf récurrent d'Arnold croise l'angle formé par le muscle grand droit et grand oblique de la nuque). Il s'agit ici d'un phénomène "objectif", le sujet n'ayant pas conscience "spontanément"; ce n'est pas une "algie subjective".

Néuralgie faciale.—Très souvent cette affection est d'origine dentaire (accident d'évolution, dent incluse, lésions pulpaire avec ou sans carie, calcification de la pulpe, calcul pulpaire, dégénérescence post-traumatique de la pulpe, lésions du péri-apex, ostéo-périostite, débris de racines, névromes post-extraction, édentement, sinusite, tumeur du maxillaire, etc.). La symptomatologie est polymorphe, mais nous avons, en tout cas, trois formes à examiner:

Néuralgie faciale aiguë et passagère.—Dans les cas de pulpite, arthrite, alvéolite. Il y a participation évidente du sympathique (voir plus haut réflexe dento-facial).

Néuralgie faciale chronique.—Douleurs plus ou moins violentes, mais continues. On met en évidence des douleurs "provoquées par la pression" et on constate de plus des douleurs spontanées avec irradiations (jusqu'à une demi-face). Ceci se présente dans les cas de pulpite chronique, de calcul pulpaire, de lésions péri-apicales, de débris radiculaires. Cette forme disparaît par suppression de la cause.

Néuralgie faciale d'origine dentaire à forme de névralgie essentielle.—Cette forme se rencontre dans les ostéo-périostites, névromes, accidents d'évolution, anciens traumatismes du maxillaire, sinusites, etc., elle peut évidemment se rencontrer aussi dans d'autres circonstances qui ne sont pas alors maxillo-dentaires.

La crise.—1^{er} acte: douleur seule, violente avec irradiations plus ou moins étendues. Premier rôle tenu par le trijumeau.

2^{me} acte: purement "moteur"; rôle tenu par le facial: frémissement des muscles superficiels, puis spasme complet de l'hémiface; durée de 2-3 minutes, puis apaisement.

3^{me} acte: rôle du sympathique: congestion de la face, des conjonctives, larmoiement, écoulement du nez, salivation. Le tout se calme enfin, sauf l'angoisse de la crise future.

Diagnostic.—Est parfois difficile. On peut avoir affaire à une irritation du nerf trijumeau par lésions *endocraniennes* (BK, cancer, syphilis) mais dans ce cas, il existe d'autres signes, symptômes d'irritation et de paralysie d'autres nerfs craniens. Et, en outre, cette forme intéresse d'emblée les trois branches du N. V.

Nous avons, enfin, de l'anesthésie cutanée et muqueuse (sauf, bien entendu, s'il y a eu antérieurement, alcoolisation ou traitement chirurgical).

Si on a affaire à des lésions *exocraniennes*, on constate à peu près les mêmes signes dans la forme essentielle que dans la forme secondaire.

Voici, les signes qui permettront la différenciation:

Remarque.—Il faut montrer la plus grande circonspection dans les cas de névralgie faciale. Car, par exemple, la névralgie des "édentés" est très souvent due à l'édentement, qui est trop souvent une *conséquence* de la névralgie et non la cause. Il faut donc être très prudent et ne pas pratiquer des extractions en série, ces manœuvres trop

radicales aboutissant finalement à l'édentement total. Il en va de même avec les "résections alvéolaires".

Le névralgisme facial.—Se présente toujours chez des femmes à la suite d'interventions buccales. Il se caractérise par des douleurs diffuses et constantes; largement exagérées par des malades geignardes (sensations les plus variées: carton, eau froide coulant goutte à goutte, etc.). Les localisations débordent les territoires du nerf (jusqu'à l'épaule). Souvent il y a accompagnement de manifestations sympathiques (érythroïse, éphydrose, dermatographe). Parfois disparition spontanée, mais parfois obsession qui va jusqu'à l'idée fixe et la cénestopathie. Il faut encore se montrer très prudent, sinon on risque de passer au délire de revendication.

La glossodynie.—Se rencontre chez les névropathes (candidats tabès ou PG) et surtout avec l'obsession de cancer. A l'œil nu, on ne découvre absolument rien; à la loupe, il y a quelques petits points rouge vif (légère abrasion de la muqueuse). Parfois le cautère guérit, mais, en règle générale, l'examen psychiatre s'impose. ⁽¹⁾

Les synalgies.—Ou sympathies aberrantes de De Fromental, ou douleurs en écho de Gubber, ou sensations sympathiques de Perrier, ou sensations associées de Duval, ou synesthésies de Richet. Ce sont des perceptions simultanées de "deux" douleurs dont la seconde naît plus loin que la première. Elles sont importantes au point de vue stomatologique, parce que les erreurs de diagnostic sont faciles. *Synalgies dento-dentaires*: très fréquemment, on a "mal" à une dent "autre" que la dent réellement en cause (surtout chez les femmes). Ces synalgies sont habituellement *homolatérales*: a) ascendantes: la dent causale est en bas et la douleur en haut; b) descendantes: l'inverse; c) horizontales au même maxillaire.

Parfois c'est une sensation double: légère sensation à la dent algogène et sensation intense à la dent synalgique (diagnostic facile si la dent est saine, mais si la dent "synalgique" est déjà obturée, il faut faire un examen très minutieux).

Synalgies dento-cutanées: plus rares, mais plus variées. Il existe une véritable "aire synalgique" ou un seul "point" douloureux. S'il s'agit d'une région avec poils, on a de l'hyperesthésie pilaire avec sensation de brûlure locale. Si l'affection persiste, on peut aller jusqu'à la dépilation locale ou diffuse. (L'aire peladique suit l'aire synalgique.)

Synalgies dento-muqueuses: principalement dento-narinaires (irritations pulpaire, alvéolaires et surtout les pansements arsenicaux). Rousseau-Decelle signale un cas de "synalgie dento-laryngée" consistant en accès de toux par irritation de la languette gingivale interdentaire entre D5 et D6.

Les douleurs "auriculaires" sont extrêmement fréquentes dans les affections du maxillaire inférieur (cf. Point de côté dans les affections pulmonaires, scapualgie dans les affections du foie, douleurs du genou dans les affections coxo-fémorales).

Pathogénie.—Ces algies ne sont certainement pas toutes de même nature; la pulpart sont d'origine centrale (sensations associés). Dans les dento-muqueuses et les dento-cutanées, il s'agit d'irritations sympathiques (sensations sympathiques).

Paralysie faciale d'origine dentaire.—On n'a signalé que quelques observations. Cette paralysie serait due aux irritations dentaires les plus variées (molaires et prémolaires toujours). Elle apparaît quelques heures après la crise dentaire et disparaît généralement après la suppression de l'irritation.

Pathogénie.—1° Névrite du trijumeau propagée au facial?

2° Paralysie faciale réflexe (probable quand la paralysie est brusque et disparaît après suppression de la cause).

3° Paralysie réflexe trigémino-sympathique (vaso-dilatation réflexe des vaisseaux du névrilème, d'où compression du facial dans l'aqueduc de Fallope et, partant, paralysie).

Ces trois hypothèses semblent bonnes. Mais il semble bien que la possibilité d'un réflexe "V + VII" ou bien réflexe "V + Sympathique" soit la plus probable.

Les affections oculaires

Y a-t-il des troubles dentaires d'origine oculaire? Il semble que "iritis, iridocyclite, vices de réfraction, glaucome (surtout) donneraient des névralgies "violentes" au niveau de la canine ou des prémolaires supérieures.

Déjà en 1896, Frey décrivait des troubles pseudo-dentaires d'origine oculaire. Mais il existe des *troubles oculaires d'origine dentaire*.

Il y a en effet des connexions étroites entre l'œil et la bouche:

1° *Connexions osseuses*.—Le maxillaire supérieur est en rapport d'une part avec l'orbite et les voies lacrymales, d'autre part avec les dents supérieures. La cavité du sinus a son plafond, qui entre dans la constitution de l'orbite et son plancher touche aux apex des dents supérieures. Les dents le plus souvent en rapport avec le sinus sont: les prémolaires et la première molaire; quant à la canine, son alvéole est souvent le point de départ de canalicules osseux de Parinaud, canalicules qui vont dans la branche montante du maxillaire jusque "devant le sac lacrymal". (Ces canalicules sont démentis par beaucoup d'auteurs.)

2° *Connexions vasculaires*.—Les branches de l'artère maxillaire interne, destinées aux dents et au sinus, s'anastomosent largement avec les branches terminales de l'artère ophtalmique. Les veines de la partie antérieure de l'arcade dentaire se jettent dans la faciale et de là, dans la veine ophtalmique supérieure; les veines du plexus alvéolaire des molaires supérieures et la veine de Trolard qui aboutit à la partie inférieure du sinus caverneux.

3° *Connexions nerveuses par le trijumeau*.—I. La 5^{me} paire assure la sensibilité générale de l'appareil oculaire et des dents.

II. Le nerf maxillaire supérieur joue un rôle important dans l'innervation péri-oculaire: par les filets orbitaires du ganglion sphéno-palatin, par l'anastomose des rameaux orbitaires avec le nerf lacrymal, par les filets orbitaires du nerf sphéno-palatin, par les filets nasaux du nerf dentaire antérieur (qui va au canal lacrymo-nasal), enfin, par les filets palpébraux des rameaux sous-orbitaires.

III. Les trois branches du trijumeau s'anastomosent avec le facial (qui innerve l'orbiculaire des paupières).

IV. Le trijumeau s'anastomose avec les nerfs moteurs de l'œil par l'intermédiaire de l'ophtalmique.

4° *Connexions sympathiques*.—Par le réseau péri-artériel autour de l'artère ophtalmique, des artères ciliaires et de l'artère centrale de la rétine jusqu'aux capillaires des membranes de l'œil.

Par le ganglion ophtalmique donnant les nerfs ciliaires et dont la racine sensitive vient de l'ophtalmique, la racine motrice, de l'oculo-moteur commun et la racine ganglionnaire du plexus carotidien.

Enfin par anastomoses entre sympathique et "nerf trijumeau et nerfs oculo-moteurs" (dans le sinus caverneux).

Etiologie.—Sont surtout en cause, les prémolaires et les molaires. Généralement unilatéralité, parfois bilatéralité. Chez l'enfant, l'évolution de la première dentition donne: conjonctivite catarrhale, kérato-conjonctivite phlycténulaire, strabisme, etc. (ces théories existent depuis les temps les plus reculés de la médecine). Chez l'adulte, ce sont surtout les lésions chroniques qui sont responsables des désordres oculaires, à savoir: les pulpites chroniques, les péri-odontites, les infections péri-apexiennes notamment et enfin, les infections évoluant silencieusement sous des obturations, des prothèses.

Les accidents réflexes.—Ils se présentent sous des formes diverses: troubles sensitifs (névralgie ophtalmique par exemple), troubles sensoriels (amaurose, amblyopie), troubles moteurs (mydriase, troubles des muscles moteurs), troubles vaso-moteurs (hyperhémie conjonctivale, lors des éruptions dentaires de l'enfant ou des pulpites aiguës de l'adulte), troubles trophiques (herpès de la cornée), troubles sécrétoires (larmolement).

Les accidents inflammatoires.—1° *De voisinage*: par voie périostée (abcès de la paupière inférieure); par voie osseuse (abcès péri-orbitaire avec ostéite, souvent); par voie sinusienne; par voie veineuse.

Ces transmissions aboutissent généralement au "phlegmon de l'orbite". Parfois il ne s'agit que d'une "cellulite orbitaire séreuse", donc sans formation de pus (Worms et Bercher).

2° *A distance*.—Cette éventualité est très discutée. Coïncidences? Bref, ces lésions seraient dues à la "focal infection" des Américains. Le mode de propagation serait le suivant: les bactéries puisées dans pulpe ou alvéole par les lymphatiques et veines dentaires, passeraient dans la circulation générale et les artères les distribueraient à l'œil... ou autres organes (opinion américaine).

Pourquoi à tel ou tel organe et non ailleurs?

Parce qu'il y a électivité? Mais alors pourquoi y a-t-il homolatéralité, dit l'Ecole Française? Parce que, répondent les Américains, il y a perturbation réflexe sympathique (la congestion oculaire est favorable à la fixation des germes et cette congestion serait produite par une irritation sympathique due aux lésions dentaires).

Pour Worms et Bercher, il y aurait "toujours" une infection sinusienne "latente" et la propagation se réaliserait régulièrement par continuité de l'infection vers les nerfs conjonctivo-cornéens ciliaires.

Une chose est certaine: quoique l'appareil oculaire soit celui qui présente le plus de connexions diverses avec le système dentaire et buccal, c'est encore du côté de l'œil que les manifestations dento-buccales sont les plus rares.

Les affections des articulations et des muscles

Le *rhumatisme articulaire aigu* peut s'accompagner d'une véritable "polyarthrite alvéolo-dentaire" éphémère, fluxionnaire, localisée aux articulations alvéolo-dentaires.

Le *pseudo rhumatisme infectieux*.—A nouveau, nous retrouvons l'infection focale. La "pyorrhée" et les "granulomes" (surtout strepto viridans) seraient les principaux responsables. Ces rhumatismes sont plutôt rares et présentent une symptomatologie variable; en outre, il est bon de ne pas se montrer trop absolu dans le diagnostic, car vraisemblablement plusieurs causes agissent simultanément. Weissembach et Françon n'ont-ils pas dit: "Les rhumatismes chroniques sont la composante variable d'éléments exogènes et endogènes combinés en des inter-réactions complexes dont nous ne pouvons encore saisir que quelques incidences, des différents points de vue auxquels nous nous plaçons. Dans aucun domaine, on ne se heurte à autant d'obscurités et d'inconnues, tant est enchevêtrée l'influence réciproque de ces différents facteurs."

Pathogénie.—1° Métastase microbienne par voie sanguine? (voir plus haut); 2° toxémie? (théorie commode, mais les toxines du strepto?); 3° action allergique? Les microbes disparus par lyse spontanée sensibiliseraient certains points de l'organisme; plus tard, des antigènes (toxines ou microbes) arrivent au contact de ces points sensibilisés et provoquent, réchauffent ou entretiennent les lésions rhumatismales. Il n'est pas question de spécificité; seule la qualité de "protéine" importerait. Donc, le rhumatisme rentrerait dans le cadre de la "sensibilité protéinique".

Conclusions.—Importance de l'hypersensibilité articulaire, de l'individualité humorale (héréditaire ou acquise), de l'individualité chimique des tissus et des échanges. Ensuite, ces articulations réagiraient—de par leur sensibilisation—aux causes les plus diverses et les plus variées. Il est difficile d'évaluer la part de la septicité bucco-dentaire, car *probablement si elle n'est jamais seule en cause, elle est vraisemblablement toujours mêlée à l'affaire*.

Quoi qu'il en soit, chez tout rhumatisant, un "examen buccal systématique" s'impose. S'il y a des foyers apicaux sous des prothèses fixes, il faut les supprimer; s'il y a des foyers apicaux isolés, les sacrifier. La radiographie sera toujours utile. Ceci pour les cas graves. Dans les cas plus bénins, on peut se montrer plus conservateur au point

de vue des prothèses fixes, par exemple. Mais de toute façon, il ne faut pas hésiter à sacrifier les prothèses dès l'instant où l'état général est menacé.

Le *rhumatisme musculaire* peut se rencontrer au cours de troubles gingivo-dentaires aigus (généralement après 40 ans). Ce sont soit des troubles aigus, soit des troubles subaigus avec poussées intermittentes.

Myosite suppurée.—Ces affections sont exceptionnellement dues à des causes dentaires. Un cas de Tellier: phlegmon sous-maxillaire par dent de sagesse; propagation à la gaine du sermo-cléido-mastôidien d'où myosite suppurée avec troubles permanent par rétraction musculaire cicatricielle.

Pour terminer, il m'a paru intéressant de donner quelques précisions sur le "muguet", puisque son développement est subordonné à des facteurs généraux. Cette affection est due au *Saccharomyces Albicans*, champignon qui exige, pour son développement, à la fois des causes locales et des causes générales. Par exemple, l'absence de salive chez l'enfant, le mauvais état général chez l'adulte.

On pourrait croire que l'acidité de la salive fait partie des "causes"; or, il n'en est rien, car l'acidité buccale est une "conséquence", le champignon produisant des acides, entre autres l'acide "acétique".

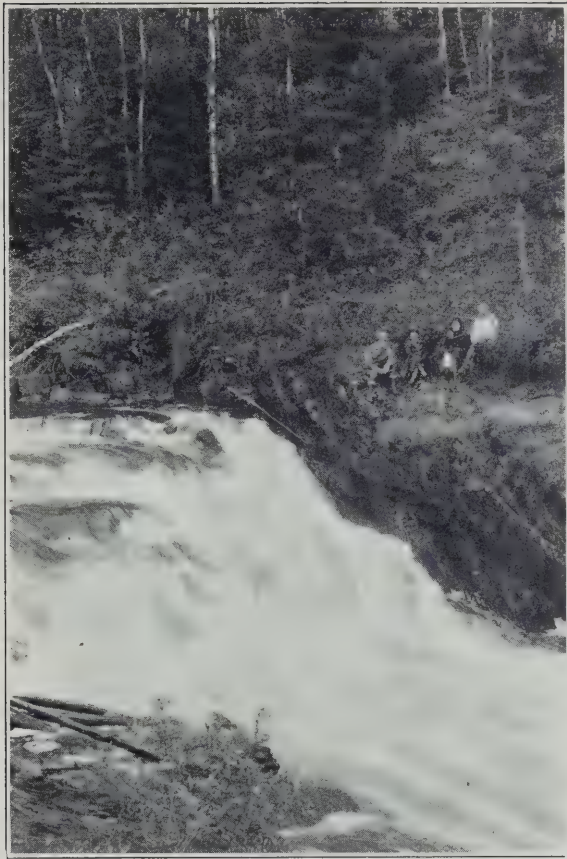
Le muguet est toujours précédé d'une phase de "stomatite catarrhale" (inflammation de la muqueuse, desquamation de l'épithélium, dessèchement, douleur). Puis apparaissent, en 2-3 jours, des grains isolés blancs, ensuite jaunes, bruns (coloration due à l'air—comme du lait caillé), qui envahissent toute la muqueuse buccale. Cet enduit, très résistant les premiers jours, s'enlève ultérieurement au pinceau; de plus, la bouche est sèche—dysphagie buccale—sensation de cuisson et aggravation des signes généraux du fait de la coexistence du muguet. Parfois l'extension se fait jusqu'au pharynx, œsophage, estomac. Parfois même passage dans le sang, au point de donner une véritable septicémie, avec développement de muguet dans le foie, la rate, les reins.

Pronostic.—On ne meurt pas "du" muguet, mais on meurt souvent "avec" le muguet.

Traitement.—D'abord préventif (hygiène buccale rigoureuse au cours de toute affection générale).

Puis traitement *alcalin*. Ce qui est intéressant ici, c'est que précisément les alcalis sont favorables à la culture de ce champignon; il semble donc contradictoire d'utiliser une thérapeutique alcaline. L'explication est celle-ci: le muguet doit se nourrir; or la salive ne représente rien pour lui. Sa seule nourriture est constituée par "lait et hydrocarbures", à condition, qu'ils aient été digérés par la salive "acide" (le lait se dédouble en galactose et glucose, et les hydrocarbures en dextrine et glucose). Si donc nous prescrivons de bains de bouche alcalins, nous empêchons cette digestion—puisque nous alcalinisons la salive—par conséquent nous nous opposons à la nourriture donc la vie du champignon.

(Extraits de "Liège médical")



Courtesy of Dept. of Mines and Natural Resources of Manitoba.

BIRD RIVER FALLS IN MANITOBA

*All creatures, to survive,
Adapt themselves to the changing conditions under which they live;
If they can grow new faculties to meet the new
Necessity, they thrive;
Otherwise not; the inflexible organism, however much alive
Today, is tomorrow extinct.*

*Edna St. Vincent Millay
(Conversation at Midnight).*



HAROLD R. SKILLING, D.D.S.

Toronto, Ontario

President, Academy of Dentistry.

Past President, Optimist Club of Toronto.

Graduate of University of Toronto—1923.



The Journal

OF THE CANADIAN DENTAL ASSOCIATION

VOL. 10

TORONTO, NOVEMBER, 1944

NO. 11

The Use of Acrylics in the Replacement of Anterior Teeth*

by GEORGE A. CHUDLEIGH, D.D.S., Halifax, Nova Scotia

Department of Operative Dentistry, Faculty of Dentistry, Dalhousie University.

THE advancement of dental science resembles, in some respects, the rising tide on the seashore, where one wave follows another up the beach until high tide. Dentistry is at present surging forward on the crest of what might well be labelled "The Acrylic Wave."

It probably is agreed by many that acrylics are here to stay for a long time. Something better may eventually replace them, but until then, it would appear to be the part of wisdom for the dental profession to give the acrylics their widest scope of usefulness.

The following technique, or use of acrylics, is an attempt to give a wider application to a material which is fairly well understood, and far beyond the experimental stage. The tooth preparation, as described, is original with the author, inasmuch as it has not been observed in the dental literature, or elsewhere, in restorative dentistry. This application of acrylics is not intended to conflict with, or to replace any well known and established procedure, but rather to supplement them. There is one, however, which may have to give ground to this technique, namely, the so called "post crown." It has

already practically outlived its day of usefulness and should be relegated to the shelf for aesthetic reasons, if for no other.

The application of these restorations may be stated briefly as useful for the six anterior teeth, or incisors, where aesthetics, as well as function, play a dominant role, and is much to be desired. These crowns are not recommended for use beyond the limits suggested, for reasons which must be apparent to any dentist. They make an ideal restoration in cases where fracture from accident may expose the pulp to such an extent that removal of the pulp, or extraction of the tooth is made necessary, but where conservation of the tooth is possible. Many incisors, also, which have already been treated succumb to fracture. If infection is not present about the roots of such teeth and can be controlled, their crowns may be restored with acrylics, instead of more complicated restorations. These crowns may also be employed where the incisor bite is very close, and fracture of porcelain probable. Acrylic crowns will give aesthetics equal to those possible with porcelain with increased retention and stability once the crown is properly ce-

*Presented before the Fall Clinic of the Montreal Dental Club, as a table clinic, Oct. 20, 1943.



Fig. 1.—Labial view of upper incisor. It will be noted that a shoulder is maintained at the labial gum line; which tends to greatly increase retention and resistance.



Fig. 2.—Proximal view of incisor shown in Fig. 1. Attention is called to preparation which follows the gum line. The tissues in the interproximal space are not encroached upon.

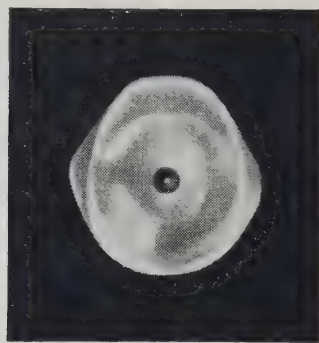


Fig. 3.—Base of crown ready for cementation. The crown will seat in the correct position only.

to the point where it can be almost entirely eliminated as a possibility.

The preparation consists in cutting the tooth down until the proximal gingival crest is reached. Care is taken at this point not to cut the tooth until haemorrhage ensues at the proximal surfaces of the tooth under preparation. Mesially and distally, the tooth is cut to within about two millimeters of the gum margin. The root is bevelled slightly lingually and mesially to give the appearance of a pitched roof. In some cases, this first cut will be far short of the mesial and distal gum line, exceeding the ideal distance of two millimeters. The next step consists in reducing the enamel at the mesial and distal of the tooth with mounted stones, or discs. Preference should be given to a mounted diamond point, of not too large a calibre to do this work. A number 557 cross cut fissure bur is then employed to cut a shoulder on the mesial and distal of the tooth. This may be carried under the gum margin if desired after the fashion usually employed in the preparation of a jacket crown; with the exception that the shoulder follows the gum line with a gradual thinning in depth until it disappears just short of the highest point in the proximal space. In other words, no attempt is made to cut a shoulder in the interproximal space. The preparation is therefore, exceedingly easy to make; also, when the crown is completed, there can be no mistake made

mented to place. The danger of fracture of the crown is further reduced

in seating, as this is possible only in the correct position already determined by the preparation. Torque will not displace the crown. Fracture of the root can conceivably occur only when pressure is exerted from a mesial, or distal direction, which is exceedingly unlikely; especially if the approximating teeth are in position. Advantages inherent in the preparation described should be apparent to the discerning operator.

The next step is the reaming of the root to receive a dowel. It is inadvisable, and not recommended, that the greater portion of the root be reamed away with the possibility of puncturing the wall of the root at some point. If the tooth is frail, a small gauge high tensile wire posting material is used. If the tooth is large, with a corresponding heavy bite, a larger post of the same material is employed. Discretion must be exercised, as teeth vary greatly in size.

Preparation of the dowel consists in tapering the wire to fit the tooth



Fig. 4.—View of completed restoration. Correct position of pin is shown. Contour of crown at the cingulum deflects food away from the gingivae.



DR. GEORGE A. CHUDLEIGH

root properly. Leave the dowel smooth at this time, as any serrations may lead to disaster subsequently. Reasons for this will become self-explanatory later. Seat the dowel in the root and check the bite by closing the mouth. When the length permissible is ascertained, flatten the wire posting to give greater retention in the acrylic crown. The wire posting should be bent to the lingual as far as possible to avoid the showing of metal through the labial plate of the crown, when the case is completed. Care must also be exercised to make certain there will be a sufficient bulk of acrylic material at the lingual aspect when the tooth is finished, and bite relationship corrected. The posting material is serrated only where it will be embedded in the body of the crown to

give additional retention between the two materials.

The following technique is recommended in taking the impression. For those familiar with taking impressions for a jacket crown, the technique is essentially the same. There is, however, one difference to be noted, namely, the dowel must be reckoned with and procedure in making these registrations must follow a definite sequence. The following order is suggested. First take a wax bite in the usual way, as the model must be mounted on an articulator. Then take the impression from which the model is made for mounting. Final registration is the impression of the prepared tooth from which the die is made. The following explanations relative to the last two steps are deemed advisable for those unfamiliar with the construction of acrylic crowns. Before taking an impression, we must make a choice of the impression material to be used, the ultimate success of which will depend largely upon the ability of the operator to control the material employed. Modeling compound will give accurate impressions when properly controlled, as is evidenced in taking the impression for a die on which a jacket crown is constructed. Wax will also give an accurate impression when proper controls are instituted, which is attested to when an inlay is made by either the direct, or indirect method. Plaster gives accurate impressions, not because of its inherent superior qualities to other materials, but because the impression refuses to be distorted upon removal where there are under cuts. Bearing the above in mind, the following technique is recommended for taking the impression from which the mounted model is to be made.

Success in this technique is not greatly dependent upon the registration of undercuts, the reasons for which will be self-explanatory. All deep undercuts between the approximating teeth are filled with plastic wax to avoid distortion when removing the impression from the mouth. The impression

of very few teeth is necessary; in fact, one on either side of the tooth to be replaced is often sufficient, with perhaps the tips of a few others. The dowel is placed in the root in its proper position. A piece of hard wax of base plate variety is softened and with hand pressure is forced well up covering the root and dowel to give an accurate impression of the prepared tooth. The wax is chilled and if undercuts hold it so firmly between the teeth that it cannot be readily removed, a little carving will free it. Modeling-compound is then employed with a small tray for taking the impression. When properly chilled, the wax and dowel will come away from the tooth in the compound impression giving an excellent registration. For those who do not wish to master the above technique or, for cases presenting unusual difficulties, a copper band is filled with wax and inserted on the prepared tooth to be followed with a plaster impression. This will also give the desired impression.

To obtain the registration for the die the dowel is removed from the completed impression and placed back in the tooth. A copper band is properly contoured to fit the tooth. Many failures in securing a clear cut impression may be avoided by cleansing the tooth properly with chloroform, to be followed with a little Kerr's lubricant, or glycerine. Preference should be given to a low fusing compound. Dresch, or Kerr's green, which softens at about twenty-two degrees above body temperature is the choice of the writer. The band filled with compound is carried to place on the tooth and held firmly. Cooling with compressed air is recommended. If these rules are observed the result upon removal will be a beautiful impression, carrying the dowel from which to make the die. The die is made from Acrynamel, Die Mac, or Kerr's Diolite. Before making the die, however, the dowel is coated with a light film of plastic wax. When the die stone hardens a little heat will soften the wax sufficiently to permit the

removal of the dowel from the die, which is very important in creating the wax tooth before curing. If amalgam is used for making the die, it will be packed so firmly against the dowel that removal is difficult. It is, therefore, contraindicated. By applying a little heat, the die is readily removed from the copper band. It is then seated in the impression. The dowel will assist somewhat in guiding the die into its correct position and holding it firmly while the model is being run in plaster. The case is mounted on the articulator in the usual way and is then ready to be waxed up for curing.

Before describing the technique employed for obtaining the contour of the crown, a few remarks on tooth form and position are herein inserted. In the construction of a porcelain jacket crown after the case is mounted, the crown is limited in aesthetic beauty by the ability of the individual operator who builds up the crown and then bakes it in an electric furnace. It is, therefore, obvious that jacket crowns which are made by those men who possess exceptional ability in art are excellent, whilst those made by operators of lesser ability sometimes fall short of aesthetic beauty.

When an acrylic crown is constructed, the dentist may select the artist of his choice. He immediately has the highest perfection known in tooth carving at his disposal. Any mould guide, or a selection from artificial teeth in his office will suffice. The correct tooth form may be easily reproduced in the most minute detail. If the crown is carved in wax, it will be found rather difficult to do and frequently results in a crown which resembles a split bean more than an incisor. It may fill the space for the patient, but that is its only qualification. At this time the dentist may also determine how his finished crown will appear by taking any tooth and trying it in the space to be filled in the patient's mouth. Select a tooth that gives a pleasing appearance as to size and contour of the labial plate. Many arti-

ficial teeth are perfect in this respect. The operator at this time makes his selection as to tooth form, nothing is left to the laboratory man, or to chance. The selection of a suitable shade is also registered and the patient dismissed.

Reference has already been made as to the use of modeling-compound, rather than the use of plaster for the taking of impressions in this technique. It was further stated that deep undercuts could be filled and largely ignored. It will be apparent now why this is possible. Positioning, or getting an artistic alignment of the new crown in the wax up must be done on the mounted model. Detail with reference to the location of undercutting which gives annoyance in impression taking, is not of great importance in positioning the tooth. The length of the adjacent teeth together with the general contour, is of greater significance.

To obtain the labial plate for the restoration before making the wax up on the mounted model, a small mix of plaster is placed on a slab. The artificial tooth of choice is embedded in the plaster, labial plate down and left there until the plaster hardens. Remove the tooth from the plaster when this has taken place. Coat the plaster with a little Kerr's lubricant and then flow Kerr's ivory inlay wax into the impression. When cooling takes place remove. This will give the labial plate to be used in the wax up of the case. In short, it will conform with the selection made in the patient's mouth. Error as to tooth form has been eliminated. The inherent personal weakness of tooth carving in wax by the dentist, or a technician, is also obviated. Time saving also should commend this technique to a busy dentist.

Preceding the wax up of the case, I should like to call attention to something that has been my observation; namely, the importance of proper positioning of teeth in the anterior part of the mouth. It has been my conviction that artistic positioning of teeth in this region is of greater importance

than any other factor. Add harmonious shading to this and other faults present may be entirely overshadowed. The testing of this theory needs only the recollection of what may happen when a single jacket crown is placed on any anterior tooth. It may be a thing of beauty, or it may be the antithesis of beauty. Dr. Lehman Wendell in his article "Thoughts on the Theory of Tooth Form and Face Form" in the October issue, 1943 of the J.A.D.A., page 1562, has the following to say, "the moment we begin to select teeth for a patient, that moment we leave the mere mechanics of dentistry and enter the realm of art, and art is an intangible something which obeys no definite rules." Dr. Wendell's article was written with reference to full denture restorations, but it is my belief that his words are equally true when the crown of any tooth is artificially replaced. This is especially true of an incisor.

In making the wax up a little Kerr's lubricant is used on the die, to prevent sticking. The wax labial plate is then placed in its proper relation to the adjacent teeth to be followed by properly contouring the lingual surface as to tooth form and bite relationship. The proximal surfaces are likewise finished as to proper contact points. This having been accomplished, the wax form is removed from the die and cleaned of any oil present. The wax tooth is then ready to be duplicated in acrylic. In some respects, the making of an acrylic crown has advantages over that of a jacket crown in porcelain. There must be an electric furnace available to construct a crown in porcelain. To process a crown in acrylic, a suitable flask and warm water are the chief requisites.

It is beyond the scope of this paper to discuss the processing technique in detail. Information on this subject may be obtained from a book on Acrylics, by Dr. L. M. Stern, of New York. Suffice it to say, the body of the tooth is built up in material for this purpose. The labial plate and tip is constructed

in translucent material in the most exacting shades desired.

Seating the crown and cementation need little comment, except to say that great care must be exercised to see that the case fits properly, and that wedging of any kind must be avoided when the tooth is finally seated. Failure to observe the importance of this may result in building in a spring potential, which will eventually assert itself. This will result in the breaking down of the cement. The crown will loosen much to the embarrassment of the patient, as well as the dentist. The preparation herein described reduces displacement of the crown by torque in functioning. The cementation surface has also been increased, which is an added advantage in permanence. If details suggested in the foregoing are adhered to, the result will be a beautifully fitting crown, with as fine a line of cementation as can be obtained with a porcelain jacket.

The question of durability is usually the first to be raised when a technique of this type is suggested for practical application. Since the final information on this point is lacking, the question still belongs to the realm of speculation. It can be answered only in the following words of a famous newscaster "time alone will tell."

The possibilities of creating harmonious restorations in the anterior part of the mouth with acrylics must go unchallenged. The purpose of this paper is to suggest where they may be used to greatest advantage in those cases which frequently bring genuine apprehension and embarrassment to so many people, who sometimes meet with accidental fracture of an incisor. This applies doubly in cases of young women who usually are fastidious about their appearance. It is suggested that if you make full use of the artistic and aesthetic possibilities of this material, you will create a thing of beauty. You may be superseded only in this effort by Pygmalion; a word of caution may save your sharing his fate.

Denture Splints and Duplicate Dentures*

by J. R. HURTON, D.D.S., Portage La Prairie, Manitoba.

THE practise of Dentistry has been constantly changing to meet the new problems which confront it. Our preventive program is showing gradual results while prophylactic and restorative dentistry have shown marked improvement due to the prolific use of the x-ray and refinements in our restorative methods. Due to this thousands of individuals are enjoying the blessing of a natural healthy dentition for a greater period of their lifetime than would otherwise be the case. In doing this we, as dentists, are rendering that service peculiar to our profession namely, "To maintain the mouth in that condition which will benefit most the health, comfort, and well being of the individual." Our very existence as a profession depends and will depend on our ability to render this service.

With this thought in mind we come to the time in the patient's life when, for reasons beyond our control, it is necessary to remove the natural teeth. We were taught to remove the teeth and when the gums became firm, a period of time varying from weeks to a year or more, to undertake replacement. This in a small percentage of cases is still the most satisfactory method. In the majority of patients however it is severely detrimental to muscular tone, shape of edentulous ridges, shape of mandible, and patient's masticating ability, to say nothing of the business and social activities of the patient.

Consider this with the fact that our present denture patients are younger people, their difficulty having begun in the years of uncertain employment

with its malnutrition and inability to procure preventive and restorative dental service. These people form a part of your dental service. These younger patients and a large number of the older patients desire to make the change from natural to artificial dentures in the shortest possible time.

After several years experience in the immediate placing of splints or denture splints upon removal of natural teeth as compared with the method of waiting until resorption had begun, I have come to the conclusion that any method of denture service, which allows the patient to be edentulous for any considerable length of time, places both the patient and operator at a distinct disadvantage and provides no useful benefit to the majority of patients and none whatever to the dentist.

We have been given intensive training in the removal of teeth and simple surgery; we have also received elaborate instruction in various methods of denture restoration beginning with the edentulous mouth. The greater the co-operation or co-ordination of these two services the more efficient service we will be able to give our patients. We all have been faced with too many difficult problems in restorations which could have been avoided by the judicious use of surgery at the time of tooth removal. We are faced with the problem of making the best of a difficult situation or subjecting the patient to the unpleasantness and delay of further surgical treatment. For this the blame may not be placed entirely on the exodontist for the more bony structure that can be maintained to

*Read before the Winnipeg Dental Society, January 24, 1944.

serve the practical purpose of denture support the better the prospect will be of successful restorations. As it is extremely difficult to judge the amount of resorption which will take place when the natural teeth are in place it is important that some method should be used so that the amount of surgery, if any, may be determined in order that the subsequent restorations will fulfil to a larger extent the needs of functional and aesthetic service. While this problem is important to the dentist who does both surgery and prosthesis it is more vital to the dentist who refers surgery to another; in this latter case there is a distinct problem. The exodontist removes the teeth but, not having the experience in the difficulties involved in replacement, is at a loss to know how much surgery is required to facilitate replacement. Thus the operator who undertakes replacement is confronted with difficulties to surmount which to a large extent could have been eliminated by the simple method of co-operation and by providing a definite guide to the surgeon. This may sound like a complicated procedure but it is in reality not very difficult, and presents many advantages to the patient, surgeon, and prosthodontist.

CLASSIFICATION OF CASES

Cases may be placed in two general classes, *Simple and Complicated*. Complicated are further classified as favourable and unfavourable.

Simple case; is either an upper or lower mouth which has from one to sixteen teeth and general characteristics of the mouth are normal, i.e., the teeth are all erupted, no gross enlargements at tuberosities. Remaining teeth may be decayed or roots may be present but no pathological condition such as granulomas, cysts, or abscess cavities.

These cases respond very nicely to immediate denture splints; quite often both upper and lower may be done at once with quite pleasing results.

Favourable Complicated; general characteristics are not normal but does

not require extensive surgery. It has protruding teeth, prominent alveolus, enlarged tuberosities, soft ridges from wearing ill fitting partials.

The majority of these cases may be handled with immediate splints; all may be handled with the alternate method. Alveolectomy or protruding teeth present no very difficult problem.

Unfavourable; severe cases of periodontoclasia, bony protuberances, irregular roots which require surgical removal, cystic cavities, large areas of necrosed bone etc. These cases must always be reduced to the simple or at the best be cared for by the alternate method.

STUDY MODELS

Procure impressions of the patient's upper and lower mouth and wax bite; mount on articulator; obtain full mouth x-rays.

Case is given careful study with patient present and placed in the general classification. This will give the operator a fairly definite guide as to the technical difficulties involved. Now he must ascertain the co-operation which may be expected.¹

1. Will the patient co-operate with you?
2. Are the physical conditions and health of the mouth favourable?
3. Is the patient tolerant or irritable?
4. Is the patient sold on immediate replacement? Discuss the case with the patient²; point out the difficulties and explain generally the method of choice to give the best results; sometimes the patient has a strong preference. It is well not to ignore this completely if you wish full co-operation as the case progresses.
5. Discuss cost and always have a definite understanding regarding the fees; always contract for sufficient to allow for one relin in ordinary cases or for completion of duplicate arrangement if using that service.

IMMEDIATE UPPER AND LOWER DENTURE SPLINTS

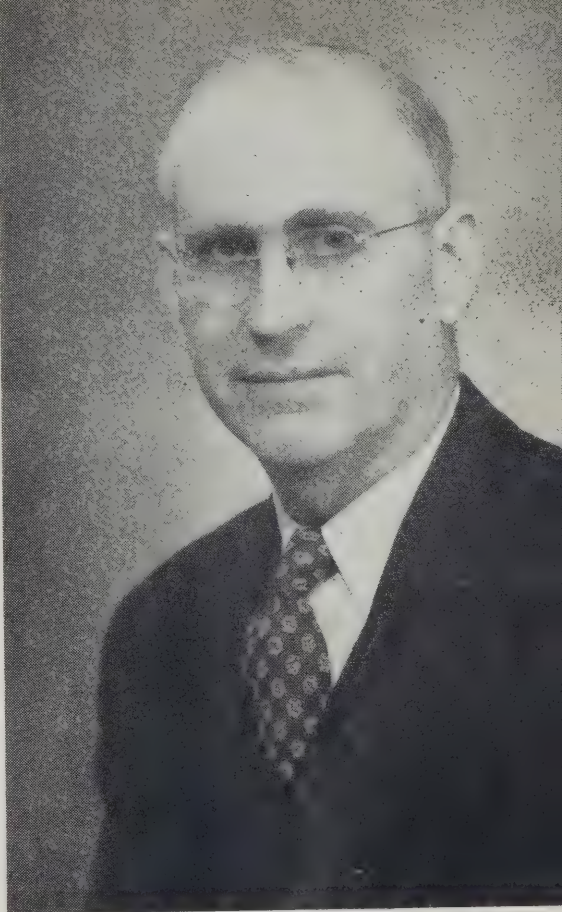
Impression

A tray is fitted over the study model to have about one eighth of an inch of

clearance. Use a standard perforated tray, or an aluminum orthodontia tray, flexible enough so that it can be shaped, spotted with compound for retaining impression material, or your technician can make an individual perforated base plate tray. Be sure that the tray covers all the surface needed for denture outline. Check up on the tuberosities and palatal areas of uppers, and the lingual bicuspid and distobuccal flanges of the lower. It may be necessary to build these areas up by adding compound to the tray. When posterior as well as anterior teeth are present Zeelex impression material gives excellent results. Mixing with distilled water at room temperature improves the working qualities and gives more uniform results. A mechanical mixer may be used to advantage.

The impressions are taken and poured in stone; this will give the master models. Flatten the anterior surface of the base of model and with a No. 8 round bur sink a guide spot close to the frenum at the median line of model base. This will be easily transferred to working models. If a number of teeth are missing it is necessary to build bite blocks, and a bite is taken as in partial work. The upper is attached to an adjustable articulator; one which has removable mounting plates is preferred, using the face bow. The lower is attached using the natural occlusion or bite blocks. The protrusive and lateral movements are registered and the articulator is set to the registration.

Now we have the master models set on the articulator representing as nearly as possible the same condition as shown in the mouth. The lip line is marked, all fillings in the teeth are charted on model; this will be an aid if fillings are to be reproduced. The shade is taken and marked on the models along with the reading of the articulator. This is very important as, to all intents and purposes, these models, attached to the articulator and its adjustment, is your patient until the denture splints are completed,



DR. J. R. HURTON

Now duplicate models are made. If the articulator has mounting plates the upper model and plate is removed from the articulator and the duplicate model is placed in the wax bite and attached to the new plate, then the lower is treated likewise. This gives the working models. If the articulator has not removable plates the case is carried to a second articulator using the face bow as in the first mounting. When the change has been completed any bites or bite blocks are replaced on master models. This may not seem necessary but if the working model is ruined it will facilitate procuring and remounting a new model.

Beginning at the anterior, the upper teeth are trimmed from the model one by one. Teeth of size, shape, and colour are chosen; it may be necessary to choose from several combinations and

set them in. Any characterizations such as fillings, abrasions, one may desire to retain are all taken care of at this time. If duplicate denture splints are being carried through two arrangements of teeth are prepared. Getting a balanced occlusion sometimes is quite difficult but by using a slightly shorter lower or by raising the upper anteriors a satisfactory working arrangement may be secured. This latter must be done with discretion especially if the lip covers the teeth well, otherwise the shortened upper teeth will spoil the aesthetic effect of the case.

On the real close bites it is generally necessary to open the bite to some extent; this latter adjustment does not seem to cause any difficulty to the patient. This is readily understood when one realizes that almost all the patients who receive immediate service are relatively young. The condition of their mouths being more or less the result of caries but the supporting tissues are healthy.

When a satisfactory arrangement is secured the duplicate set-up is prepared by having the technician make up bases on vulcanite, acrylic, or hard reinforced base plates to which the teeth are attached with hard wax. We now have two identical set-ups, one to be processed ready for the mouth; the other will be explained later.

PLAIN SPLINTS

The guide splints are prepared at the time of processing, when the case has been boiled out an impression is taken of the model in the lower half of the flask. Then another model is made and a uniform layer of wax is placed over the denture bearing surface, this is processed in clear acrylic. This splint acts as a guide to the exodontist and controls the healing until such a time as the denture is inserted. When the splints and denture splints are ready the teeth are removed, any minor surgery completed, using the clear acrylic splint as a guide. At the discretion of the operator the plain splint may be left in place until the next appoint-

ment, or the denture splint may be inserted immediately.

The denture may then be inserted. The patient is instructed to leave the denture in and be present the following day when the operator will remove the denture, care for the mouth, and make any minor adjustments which may be necessary. A small amount of surgical paste is placed on the denture over the wounds and the surface is sprinkled with adhesive powder. The patient is instructed upon the care of the mouth and to return for observation at intervals.

DIRECT METHOD

The following is a simple direct technique to use when six anterior teeth are present requiring no surgery. Make up a base plate tray from study model to cover the denture surface of posterior mouth and lingual of teeth. Cover with Zorite and gently put into place. Remove from mouth and trim excess off anterior margins to a definite line. Replace in the mouth and with an orthodontia tray take an overall impression in plaster of Paris; remove and assemble. Relieve areas over cuspid roots by scraping slightly; this will prevent pressure soreness. Pour in stone and proceed as outlined previously in immediate dentures. Duplicate arrangements may be carried through if desired. These cases give excellent results and require little or no adjustment.

A thin labial gum can be used to advantage on 90% of these cases. A relin is given if necessary as part of the service; this should be included in the original fee. It is not unusual for these cases to give satisfactory service for several years.

THE DUPLICATE DENTURE SPLINTS

When healing has progressed sufficiently to cause the original denture splint to become loose or to cause peripheral soreness, the duplicate arrangement is adjusted to improve the denture outline, and to take care of the settling or shrinkage of the alveolus,

and is refitted, using a pressure equalizing paste. As the teeth were set on hard wax, minor adjustments may be made with very little trouble. The technician will process these cases and will return them on plaster models. The upper and lower dentures will be removed from the models and placed in the patient's mouth. Spot grind slightly using articulating paper, and instruct the patient not to use too vigorously for 24 hours and return. Now place softened wax between the upper and lower and have the patient register centric occlusion. The cases are replaced on models and attached to compensating articulator. The face bow may be used, but with experience it is not necessary. The protrusive bite is registered and set.

Now with carbon and a small stone grind the cusp planes and fauces to eliminate trauma. This will generally take but a short time and may be done while the patient is in the chair. This last procedure of remounting and adjusting cusp interference may seem unnecessary but it will eliminate 75% of minor peripheral adjustments.

ALTERNATE METHOD

The following is a simple method which may be used, if for any reason immediate dentures are not being made, but some method to control healing and shorten the edentulous period is required. This is a very practical way of producing the general appearance of the patient's natural teeth some considerable time after extractions and the results are very gratifying. The patient should wear the guide splint constantly until the denture is made to give the best results. This method of using a plain splint is recommended in cases where a large number of teeth are to be extracted; where a general anaesthetic is indicated; where surgery is anticipated; when changes are being made from existing arrangement or position of patient's teeth, and a try in is desired. It has the advantage of controlled healing; it helps the patient become

accustomed to a foreign object in the mouth, especially the feeling of fullness inside the lip. It shortens the edentulous period to a matter of days. Better adaptation is secured than with an immediate denture.

1. Accurate impressions are taken of both upper and lower mouth, poured in stone and mounted on an articulator.

2. The anterior six teeth are removed from the model and teeth of similar colour and size and shape are set on a hard wax palate. Remove wax palate and the six artificial teeth from the model.

3. Be sure the bite adjustment of articulator is firmly set. Cut the balance of the teeth from the model, trim the model to resemble closely the shape of the mouth when teeth have been removed and surgery completed.

4. Make up a base plate tray and attach softened impression compound in such a way that when the articulator is closed the occlusal surfaces of the opposing teeth will be clearly recorded in the compound. This will give an accurate record of the patient's bite. Remove the base plate tray and bite from model.

5. Use the model to make up a clear acrylic splint. The exodontist may use this splint for a guide and the patient can wear it until healing has progressed.

6. Using the base plate tray and a pressure equalizing paste a closed mouth impression is taken utilizing the compound bite. The splint is placed in the patient's mouth.

7. Pour impression in stone, place bite against lower model and attach to articulator to set bite adjustment. Separate impression from model.

8. Take the wax palate and place in position on new model, as there is no change in the palate through resorption the teeth will be held in their natural position by hard wax. Wax in position and complete the set up. You may have a try in or establish a bite plane at this point if you desire. Finish the case.

This outlines the technique and modi-

fication I am using at present; it gives very good results, but be sure:—

1. That the impression covers sufficient area to give proper denture outline.

2. Keep the lower posterior teeth narrow bucco-lingually and at least $\frac{3}{8}$ of an inch from the posterior margin of the denture.

3. Not to cut away more of the model than is absolutely necessary to give favourable results, for the less surgery the better chance of success.

CONCLUSIONS

1. There is less resorption with this type of service. A good percentage of the denture splints show good adaptation and give satisfactory service for several years. This fact is qualified by Dr. Jacob J. Stark, who states, "By prolonged waiting for denture replacement after extraction of teeth or alveo-clasia the alveolar ridges diminish in height or may entirely disappear; the form of mandible, angulation of body and rami, as well as the character of the muscles and their attachments may also change."³

2. The patient has a more favourable mental outlook; the psychological stimulation of being able to carry on their usual activities almost immediately helps to overcome many physical difficulties and irritations.⁴

3. There is no more and probably less pain with immediate dentures than when wounds are left open. For this reason splints may be used to advantage after multiple extractions.

4. The dentures require less time and even without duplicate arrangements where there is a convenient laboratory service the patient will be without dentures a minimum of time.

5. In the case of patients where it is imperative that they be not inconvenienced at any time, or with fastidious patients the operator is well advised to have duplicate dentures. This will save the patient, dentist, and technician considerable nervous strain and the cost need not be increased greatly.

6. Finally I would remind you that this immediate denture service is a great solace to those active people who must lose their natural teeth, and we can do no better than to work out a standardized procedure that we can handle these cases expediently with the minimum of discomfort to the patient.

REFERENCE

1. J. N. Stewart, D.D.S., *Jour. of C.D.A.* April, 1935.
2. H. J. Merkeley, M.D.S., *Lower Dentures*, May, 1943.
3. Jacob B. Stark, D.D.S., *Dental Digest*, July, 1943.
4. Major W. F. Tolar, Major W. A. Ferguson, *Dental Digest*, August, 1943.

Character is like the foundation to a house—it is below the surface.

—*The Window Seat.*

Die when I may, I want it said of me by those who know me best, that I always plucked a thistle and planted a flower where I thought a flower would grow.

—A. Lincoln.

The Forum

THE EFFECT OF DIET ON THE PHYSICAL PERFORMANCE AND FATIGUE OF MAN

by ANCEL KEYS, Ph.D., D.Phil.

Professor of Physiology and Director Laboratory of Physiological Hygiene, University of Minnesota
Condensed from The Minnesota Medical Foundation

THE belief that dietary measures can improve vigour and resistance to fatigue is apparently almost as old as mankind and is shared by primitive peoples and by the cultured Occidental alike. Such beliefs range from the conviction of the cannibal that he can gain the strength of his enemy by eating him, to the biochemist who considers that an additional supply of enzymes can make the energy-yielding metabolic transformations proceed more readily in the body. Muscular weakness is a familiar characteristic of some vitamin deficiency diseases and it is easy to show that malnutrition and starvation hinder work performance. The question as to whether unusual physical capacity may be achieved by adding special foods or vitamins to an ordinary diet is more uncertain and the experimental evidence is highly unsatisfactory in spite of the numerous claims and irresponsible statements which appear in both the popular and scientific press.

Almost every person has certain specific food beliefs. Some of these reflect personal preferences; some have been occasioned by individual past experience and some are matters of family custom. Most outstanding athletes have convictions as to the type of food which enables them to carry out their best performances. In more scientific terms, specific foods are advocated on the basis of

real or imaginary theoretical bases. Some substances, such as dextrose, are advocated because they are known to be combusted in the muscles and they require a minimum of digestive and metabolic preparation for absorption and use. Creatine, lecithin and phosphate are normally prominent in muscle and nervous tissue and for that reason have been suggested to improve physical performance. Gelatine has been promoted because it contains a large percentage of the amino acid, glycerine, and it is possible to argue that this glycine could be used in the formation of muscle creatine and thereby indirectly favour the performance of physical work. Alkalizing foods and alkalies in general have been claimed to have virtue because they counteract some of the biochemical changes which result from muscular exertion. In recent years, some of the vitamins have been particularly advocated to promote physical performance and to counteract or avoid fatigue because they participate in enzyme systems which are fundamental to the metabolic processes involved in the release of energy.

In general the theories offered for aiding work performance by special dietaries or special foods are based on the attempt to maintain the muscle in its unfatigued state by: (1) Renewing the supply of energy-yielding substrates; (2) facilitating the energy-

yielding reactions; (3) counteracting the physical-chemical changes which result from the metabolism of muscular contraction.

SUMMARY

1. The diet has well-marked effects on physical performance and capacity in the limiting conditions of starvation, and frank vitamin deficiencies. However, the majority of beliefs and theories about the effects of particular dietaries or nutrients are not supported by acceptable evidence.

2. The theory as to special virtues of between-meal feeding for muscular work is not acceptable for normal conditions.

3. Sugars are excellent fuels for muscular work but differentiation in this respect between the several sugars, and even complex carbohydrates, is questionable.

4. Fats are readily used as fuels for muscular work but they are slightly less efficient than carbohydrates in this respect. This difference is not a simple matter of ketosis, and ketone bodies *per se* are not especially deleterious.

5. Muscular work requires no increased intake of protein.

6. Vitamins in the B complex, notably thiamine, riboflavin and niacin, participate in energy-yielding reactions fundamental to muscle metabolism. There is no reason to believe that these reactions, and the physical work they support, are enhanced by intakes of these vitamins larger than the amounts needed to prevent definite signs of deficiency. For normal young men the "requirements" for these vitamins are considerably less than the National Research Council minimal recommendations.

7. Phosphates have no special virtue in promoting physical performance.

8. Glycine and gelatine have not been proved to enhance physical performance or to combat fatigue.

9. Progress on the questions of the relation between diet and the physical performance and capacity of man requires highly specialized and standardized methods of investigation. Until these are more widely developed and applied it must be expected that the majority of practical questions will go unanswered. So far there is no indication that any diet or dietary adjuvant will promote vigour and combat fatigue better than any ordinary good diet.

NERVE INJURIES INCIDENT TO DENTAL SURGERY

by MARTIN L. DeBATS, D.D.S., and WALTER H. PHILLIPS, D.D.S., M.S., Detroit, Mich.

Condensed from Jour. of Oral Surg., Jan., 1944

THE INFERIOR ALVEOLAR NERVE

INJURY to the inferior alveolar nerve is followed by prolonged anaesthesia of the lip and chin on the side affected. This nerve is most often injured during the removal of an impacted lower third molar or its roots when the roots penetrate the mandibular canal. Prevention of injury to the inferior alveolar nerve should be paramount in the dentist's mind before an attempt to remove such teeth. A clear and accurate roentgenogram is taken at the correct angle and the patient is advised regarding the possibility of

nerve injury and its implications before the operation. Mental preparedness of the patient may prevent embarrassment later.

Measures for preventing such complications that have been employed successfully in our practice for several years involve complete removal of the overlying bony process about the crown of the impacted tooth, permitting it to erupt away from the mandibular canal and nerve. The overlying soft tissue is also excised and a surgical cement dressing is placed in the opening to maintain drainage un-

til sufficient granulation of tissues makes further dressings unnecessary. Occasionally, extraction of the second molar is indicated when it is injured by the third molar, with bone loss at the point of pressure. From six months to one year later, when the third molar has moved away from the proximity of the nerve, a second operation is performed and the tooth is removed without injury to the inferior dental nerve.

Unerupted third molars are also found in close proximity to the mandibular nerve in edentulous lower jaws. With removal of overlying soft tissue and bone, the tooth tends to move upward and away from the canal, where its removal will not injure the nerve. Should its eruption not follow in six months, the problem is not complicated except for the minor discomfort of a second operation to remove the tooth.

The mandibular canal may run perilously near the apices of all the lower molar teeth. Bone loss during the removal of a lower molar tooth in such instances may force pathologic débris into the open canal, thus involving the inferior dental nerve. Similarly, injury to the nerve may occur during the process of curetting the socket, causing numbness of the lip on that side. Care should be exercised in the use of the curet in lower molar sockets with extensive necrosis, especially in children.

The inferior alveolar nerve presents a favourable prospect of regeneration when severed because the inferior dental canal acts as a guide to growth and union of the nerves. Experience has shown that it is difficult, in many cases, to prevent this nerve from regenerating within the canal. This has been demonstrated many times in sectioning the nerve to control pain in tic douloureux cases. Regeneration has taken place in spite of efforts to prevent it.

The length of time required for regeneration depends on the extent of the injury. When the nerve is traumatized by pressure only during an ex-

traction, its normal function gradually returns during the next three to six months. A sensation of tingling in the area supplied by the nerve is a symptom of sensory nerve regeneration. In the case of complete severance of the inferior dental nerve, regeneration usually requires more than six months.

THE LINGUAL NERVE

The lingual nerve is frequently traumatized during the removal of a lower third molar or during mandibular block injection. The lingual nerve runs perilously near the apices of the lower third molar at times, and, in case of pathologic involvement or difficult delivery, the lingual nerve may be severed. Incisions for exposure of impacted lower third molars should be confined to the buccal aspect and should follow the external oblique ridge to avoid cutting the lingual nerve. Likewise, in removing the coronal sac on the lingual surface of the socket, the tissue should be examined carefully before excising. We have seen cases in which the lingual plate of the mandible had been absorbed because the crown was inclined lingually and the sublingual tissues were thought to be a part of the coronal sac and were removed, with a section of the lingual nerve. Regeneration of the nerve is a very remote possibility. In removing the second and third lower molar teeth, all soft tissues and parts of the alveoli are dissected carefully away from the teeth before the final removal from the sockets. This procedure may prevent the lingual nerve from being lifted, together with a fragment of the lingual alveolar plate.

During the mandibular block injection, patients occasionally experience a sudden shock to the tongue, with immediate numbness on the side injected. This is usually followed by prolonged paresthesia of that side of the tongue extending to the tip and lasting for from several days to several weeks. This is due to direct contact

with the lingual nerve by the point of the needle. The lingual nerve runs along the external surface of the internal pterygoid muscle, and the needle passes through the pterygomandibular space between the lingual nerve and the inner surface of the ramus. In-

section of the needle too far medially into the pterygomandibular ligament permits it to contact and traumatize the lingual nerve. Since contact with the needle is not likely to sever the nerve, paresthesia of the tongue in this case is usually only temporary.



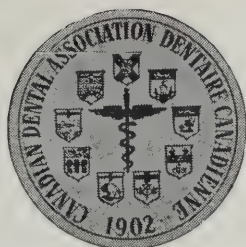
"You have a priority, Mr. Fafnir. You owe the doctor only \$28, and that puts you ahead of Mrs. Prow. She owes \$34!"

—By Permission of *Medical Economics*.

Dentists in civilian practice should be warned not to have too many accounts outstanding during this present period of prosperity; neither should they make vague commitments of any sort that might be embarrassing to them. Dentists with great sums of money on the books may find that, as soon as people are out of work even temporarily, these accounts will be worthless.

—From Editorial in *Oral Hygiene*.

The best cure for the body is to quiet the mind.—Napoleon.



Editor: M. H. GARVIN, Winnipeg

Assistant Editor: T. R. MARSHALL, Toronto

Associate Editors:

PRINCE EDWARD ISLAND:

D. T. Waye, Charlottetown

QUEBEC:

E. M. Laurin, Montreal

SASKATCHEWAN:

F. C. Harwood, Moose Jaw

NOVA SCOTIA:

Warren C. Oxner, Halifax

ONTARIO:

T. R. Marshall, Toronto

ALBERTA:

John Clay, Calgary

NEW BRUNSWICK:

W. C. Carruthers, Saint John

MANITOBA:

J. F. Morrison, Winnipeg

BRITISH COLUMBIA:

H. M. Cline, Vancouver

“What’s In A Name?”

The desire for perfection should energize our every thought in considering the development of the dental profession, however blurred those thoughts may be. Some of our ideals may not be capable of fulfilment at the present time but they persist because we consider them good for Dentistry. The struggle for perfection is not easy. We seek happiness and man is not happy unless he is prosperous. We seek security. We would that fear could be banished. We seek truth. I believe that dentists would be more prosperous, happier and have a greater sense of security if ancillary help were provided and used in a more efficient manner.

We have technicians but no adequate means for training them have been provided. In the past, and probably at present, it has been impossible for a technician to receive any instructive information from members of the staff of at least some of our leading dental schools. It is high time that something was done about this.

In Canada, we have dental nurses and dental assistants. The difference in status is rather mythical. One has been trained in a dental school to meet patients, keep books, sterilize instruments, pour plaster, place a clean bib on a patient before the dentist commences to operate, assist at the chair, etc. The other has learned these same things from the dentist whom she serves. Neither group can do any work in the mouth of the patient so we may well ask “What’s in a name?” Of course one should not belittle the college course because to a considerable extent this education saves the dentist much time in training the new assistant even though some things have to be learned over again. The trained dental assistant is a necessity

in any office but why not call her an assistant when all that she is allowed to do is to assist no matter where she may obtain her training.

How different it is with a registered medical nurse who is trained to give serum and vaccine inoculations; give hypodermic injections of sedatives; administer local anaesthetics to eyes and throat as well as irrigate the eyes; dry clean and syringe out the ears; irrigate antrums; give nasal douches; make gastric analyses; irrigate open wounds; remove sutures, packings and drains; apply surgical dressings and perform many other duties which save the physician a great amount of time. In fact, in many cases, the public health nurse, under medical direction, does far more than the services just enumerated.

It would seem that this whole problem is simply a matter of opinion and that the viewpoint differs greatly in different countries. In fact, the rights or privileges of the physician or dentist are more a matter of custom than of common sense.

In the U.S.A., we are told that 91 per cent of babies are delivered by the physician, while in New Zealand this work is delegated largely to nurses and it is said that New Zealand has the lowest maternal and infant mortality rate of any country in the world. On the other hand, in the U.S.A. hospitals, nurses are frequently permitted to give general anaesthetics while Dr. Hircus, Dean of Medicine in New Zealand is quoted as saying that they would shoot a nurse who dared to transgress in the field of anaesthesia.

According to M. G. McGavran, M.D. of St. Louis, it is generally conceded that intravenous and intramuscular injections, once a strictly medical procedure, are much better and more effectively done by nurses and technicians.

With the recognized shortage of dentists in Canada, it is foolish to take a labour-union attitude concerning the rights and privileges of dentists. Everything reasonably possible should be delegated to ancillary personnel.

The dental nurse should be trained to do more than assist. Under reasonable supervision she should be able to apply drugs in the mouth as a medical nurse is permitted to do. She should be specially trained to work with the dentist in his operations in the mouth, and under his direction do much which at present is not permitted. She should be educated in the cleaning of the mouth ready for those operations. Call it the work of the "Hygienist" if you like, but I much prefer the title "*Registered Dental Nurse*". This might do away with some of the groundless fears that the "Hygienist" in time, may consider that she has some vested rights which would not be in the interests of the dental profession. After the dental nurse has been trained to do all of these things, she will still be performing quite minor duties as compared to those of the registered medical nurse. We should not consider too seriously those over-conscientious souls who fear that enterprise and advancement along these lines spells disaster for the dental profession.

Too many who speak against advancement in the field of ancillary

help know too little about the subject. They should be told what the Irishman told his brother: "Drop that wheelbarrow! What do you know about machinery." All one needs to do is to see a well trained dental nurse or hygienist in action in an efficient, up-to-date dental surgery to become convinced that dentistry as now practised has a long way to go in the development of ancillary help.

M. H. G.

DENTAL CORPS NEWS

SUPPLEMENTARY LIST OF CANADIAN DENTAL CORPS OFFICERS AS OF SEPTEMBER 30, 1914

APPOINTMENTS

Rank, Name and Date	Civilian Address
Lieut. W. W. Anglin, 29-7-44.....	Hampton, N.B.
Lieut. H. R. Goodfellow, 1-9-44.....	Toronto, Ont.
Lieut. L. W. Beamish, 18-8-44.....	Vancouver, B.C.
Lieut. N. C. Ferguson, 18-8-44.....	New Westminster, B.C.
Lieut. E. P. Gill, 24-7-44.....	Victoria, B.C.

Lieut. W. N. Westwood, 21-9-44..... Victoria, B.C.
Lieut. M. W. Rom, 5-9-44..... Orange Free State (S. Africa)

RETIREMENTS

Rank, Name and Date	Civilian Address
Lieut. F. A. Janes, 15-8-44.....	Toronto, Ont.
Lieut. P. Singer, 8-8-44.....	Toronto, Ont.
Lieut. H. A. Trotter, 10-8-44.....	Brandon, Man.

CANADIAN DENTAL ASSOCIATION NEWS

FROM THE SECRETARY'S OFFICE

Dental Personnel

Much is being said today respecting the great necessity for increased dental personnel. The profession in general look askance at some of the suggestions being made by laymen respecting the number of dentists to be required in the immediate future.

What the future holds for health services in economy and government provision is not known. The present is a time when the range of error in judgment can be liberal, to say the least. Until some definite arrangement whereby a greatly increased number of dentists can be assured of financial support the profession will do well to hesitate before entering into any plan of rapid expansion. No matter what arrangements may be promulgated the need for dentists will depend upon the existent appreciation of dental services. Experience of the past has taught that such appreciation does not increase by leaps and bounds but rather it is gradual in character.

Let the present dental statistics be carefully examined. As of February 1944 it was found that there were 4405 dentists on the provincial registers which is an 8% increase over the figure for the pre-war year of 1938. Since that date there have been approximately 100 new graduates added. Let it be assumed from present indications that a minimum of 500 men from the armed forces will apply for admission to the dental schools at the cessation of hos-

tilities. To this number must be added the regular enrolment from the secondary schools each year, less the expectancy of loss through death and retirement. Provided that demobilization begins within a year it can be predicted on the above suggested estimates that in 1949 the increase of dental personnel in Canada may be over 20% as compared with the pre-war year 1938. The question naturally arises whether or not the appreciation of dental services will have increased a similar amount during this decennial period. It has been said that owing to the creditable dental services rendered to those in the military forces that the demand for extension of these services into civilian life will be great. Recently some doubt as to the size of the increased demand has appeared in professional literature. A large surplus of dentists beyond the demand for services would be neither in the best interests of the profession nor the public.

Emphasis has been almost entirely laid upon an increased number of dentists whereas it is quite reasonable that the same result in meeting the demand for dental services can be met more sanely by better use of auxiliary dental personnel. Of the auxiliary services available to the dentist attention is directed in these remarks to the use of the dental assistant. At the Institute of Dental Economics recently held at the University of Michigan authentic statement was made that the capacity of the average

dental office is increased 33 1/3% through the use of a qualified dental assistant. This statement is based upon a thorough study of the subject. Study of the following data in relationship to the above statement should leave little room for doubt that the means of greatly increasing dental services to the public are at hand if only this one source is used. When considered in relationship to the increase in the number of dentists, above predicted, the possibilities for enlarged dental services to the public are already great. According to the survey of February 1943, the following facts are produced:

(1). Dental Assistants are employed in the following percentage of dental offices in Canada:

Prince Edward Island	25% (approx.)
Nova Scotia	40% "
New Brunswick	40% "
Quebec	49% "
Ontario	50% "
Manitoba	60% "
Saskatchewan	55% "
Alberta	56% "
British Columbia	73% "
All Canada	52% "

NEWS FROM THE PROVINCES

QUEBEC:

Doctor's and Dentist's Salaries

A new scale of salaries for doctors and dentists employed by the City of Montreal Health Department has been adopted, as follows:

Assistant directors, \$6,000 to \$7,000 a year; special officers and heads of sanitary districts, \$5,800 to \$6,800; deputy chiefs of sanitary districts, \$5,500 to \$6,500; superintendents, \$5,000 to \$6,000; medico-legal advisers, \$5,000 to \$6,000; assistant superintendents, \$4,300 to \$4,800; district chiefs, \$4,300 to \$4,800; heads of T.B. sections (part time), \$2,500 to \$3,000; psychiatrists (11 months part time), \$1,800 to \$2,200; psychiatrists (full time) epidemiologists, phthisiologists, \$3,800 to \$4,500; bacteriologists (part time) \$1,800 to \$2,200; doctors of public health, \$3,500 to \$4,000; doctors (non-specialized), \$3,000 to \$3,800; dentist chief of section, \$4,200 to \$4,800; dentists with qualifications in public health, \$3,500 to \$4,000; dentists without qualifications, \$3,000 to \$3,800; dentists (part time) \$1,500 to \$1,900; chief of orthodontic clinic (part time), \$2,000 to \$2,500; lawyer, \$3,000 to \$3,800; architect and verifactor of building plans, \$3,000 to \$3,800.

The following new scale was also approved for nurses employed by the Health Department:

Public Health nurses, during first five years of service, \$1,600; five to nine years \$1,700; 10 to 14 years, \$1,800; 15 years and over, \$1,900.

Graduate nurse without special qualifications: first five years, \$1,400; five to nine years, \$1,500; 10 to 12 years, \$1,600; 13 years, \$1,700; 17 to 20 years, \$1,800; 24 years and over, \$1,900.

NEW BRUNSWICK:

New Brunswick Dental Society Convention

The 49th Annual Convention of this Society was held on September 18-19 at the Admiral Beatty Hotel, Saint John.

The convention was a marked success, with many dentists present, not only from all parts of the Province, but from outside points, including Montreal, Toronto and Quebec. The Canadian Dental Corps was well represented.

Dr. J. B. Gosnell, President of the Society, opened the convention. After addressing the meeting Dr. Gosnell introduced Mayor C. R. Wasson, who extended a civic welcome to those in attendance.

Dr. Ralph R. Dagleish, Sydney, N.S., gave a very fine lecture clinic on "Practice Management".

A very splendid lecture was given by Dr. George A. Morgan of Toronto, Ontario, on Exodontia. Dr. Morgan pointed out in his lecture many ways by which the general practitioner can avoid errors and pitfalls. Dr. Morgan also showed a coloured motion picture on "Practical Surgical Tips," which was very interesting and instructive and described many parts of the picture and answered many questions.

Dr. F. L. Miller, Fredericton, N.B., gave a paper and practical demonstration on "An Amalgam Technique".

Dr. C. H. Moses, Hamilton, Ontario, gave a very interesting lecture on Prosthodontia and also showed motion pictures, showing the complete construction of dentures from beginning to end. Dr. Moses described his technique as the picture was shown.

Dr. Don W. Gullet, Secretary of the Canadian Dental Association, was the guest speaker at the dinner held Monday evening and addressed the Society on health insurance and the progress that had been made along that line. He also spoke on matters pertaining to the Canadian Dental Association and the work being done by it. Other speakers of the evening were Dr. Harry Thompson, of the Canadian Oral Hygiene Association, Lt. Col. Sheppard, district dental officer for M.D. No. 7 and Dr. F. A. Godsoe.

A very interesting talk was given by Mr. Henry Cavill, Treasurer of the Dental Company of Canada (Eastern) on Dental Economics.

Tuesday afternoon the business meeting of the Society was held, with Dr. J. B. Gosnell presiding. Considerable business was dealt with including the election of officers for the ensuing year, with the following results. Honorary President, Major L. F. Allanach of Moncton, now overseas; President, Dr. V. F. Hudson, Moncton; Vice-President, Dr. J. B. O'Brien, Saint John; Secretary-Registrar, Dr. A. J. Coughlan, Saint John, re-elected. Members of the council of Dental Surgeons are: Dr. F. C. Simms, Edmundston; Dr. C. A. Burgess, St. Stephen; Dr. H. G. Vaughan, Chatham; Dr. Theo. Godin, Campbellton; Dr. F. L. Miller and Dr. J. C. McMullen, Fredericton; Dr. George MacDougall, Sussex; Dr. W. C. Carruthers and Dr. T. G. Manning, Saint John; Dr. R. E. McClintock, Centreville; and Dr. Stanley Donald and Dr. Arthur LeBlanc of Moncton.

Dr. Howard W. MacDonald was re-elected as representative to the Canadian Dental Association.

NOVA SCOTIA.

Appointment of Associate Editor

Owing to ill health, Dr. S. G. Ritchie has been obliged to relinquish his post as Asso-

ciate Editor for Nova Scotia of the Journal of the Canadian Dental Association.

Dr. W. C. Oxner has been appointed to this position by the Dental Board of Nova Scotia.

We regret very much to learn of Dr. Ritchie's indisposition and trust that he may soon enjoy a complete recovery.

We wish also to welcome Dr. Oxner to the Editorial staff of the Journal, believing that he can make a fine contribution to our national publication.—Editor.

The Nova Scotia Dental Association

The Fifty-Fourth Annual Convention of their Association was held at the Cornwallis Inn, Kentville, N.S., on September 14, 15 and 16, 1944. Seventy-three registered which is tolerably good considering the fact that a high percentage of our men are serving in the Dental Corps and thus were unavailable for the meeting.

The President, Dr. J. W. Dobson of Halifax presided at all the sessions.

The following officers were elected:

President

Dr. M. E. Morrison, Antigonish

Senior Vice President

Dr. H. M. Eaton, Halifax

Junior Vice President

Dr. Ross Harrington, Bridgewater

Secretary

Dr. A. A. Dunlop, Halifax

The Executive Committee is composed of the above officers together with Dr. J. P. McGuigan of Halifax.

Dominion Dental Council Representative—

Dr. W. C. Oxner.

Alternate—Dr. J. W. Dobson.

Canadian Dental Association Delegate—

Dr. V. D. Crowe, Truro.

Alternate—Dr. J. S. Bagnall, Halifax.

Provincial Dental Board

Dr. W. H. H. Beckwith, Pres., Halifax.

Dr. S. G. Ritchie, Vice-Pres., Halifax.

Dr. R. R. Dalglish, Sydney.

Dr. Weldon R. Fraser, New Glasgow.

Dr. M. E. Morrison, Antigonish.

Dr. H. O. Harding, Yarmouth.

Dr. G. M. Dewis, Sec.-Reg., Halifax.

The Associate Editor of the Journal of the Canadian Dental Association, Dr. S. G. Ritchie tendered his resignation and Dr.

W. C. Oxner was appointed to that position.

Members of the Oral Hygiene Committee

Dr. G. M. Dewis, Halifax.

Dr. A. Borden Haverstock, Halifax.

Dr. J. W. Dobson, Halifax.

Dr. J. H. H. Rice, Halifax.

Dr. J. T. Lebbetter, Berwick.

The Executive Committee had prepared a good program which was promptly and ably carried through. With Dr. H. M. Eaton as Chairman the committee was fortunate in securing two excellent clinicians, Dr. James Coupland of Ottawa, and Dr. Frank Cole of Toronto. Dr. Coupland's clinics consisted of Radiodontic Interpretations, Exodontia, a Discussion of Instruments and Radiodontic Technique.

Dr. Cole's demonstrations included Partial Dentures, a Practical Demonstration of Impressions, Designs, the set up of a Balanced Technique, coloured slides of Upper and Lower Balanced Technique, motion pictures illustrating Impressions and a Balanced Denture, as well as slides and motion pictures of Myer's and a Modified Myer's Technique.

Both clinicians were eminently successful in their presentations.

Dr. Harry Thompson was with us and received a warm welcome and, as always, had an interesting message to deliver.

Friday from 2.30 to 4 p.m. was devoted to a Questions and Answers period, Drs. Coupland, Cole, Bagnall and Dalgleish presiding. It proved interesting and instructive.

The Annual Dinner held on Friday evening was attended by one hundred and twenty-five including the wives of members and guests. Dr. Don Gullett was the speaker. After paying graceful tribute to Dr. Stan Bagnall for his contribution to Canadian Dentistry as the former Secretary of the Canadian Dental Association, Dr. Gullett gave a comprehensive and detailed review of the activities and accomplishments of the C.D.A. during the past year. The address was followed with marked attention and stimulated a renewed interest in Canadian Dentistry.

This Province has fallen into line with regard to paying the C.D.A. annual fees of its practising dentists who are serving in the Dental Corps.

In the report of the Dominion Dental Council representative to the Association, attention was directed to the fact that the

Council had contributed five thousand dollars to the Research Committee of the C.D.A. to be used at its discretion.

Halifax Dental Society

This Society held the first of its autumn and winter monthly dinners at the Nova Scotian Hotel on October 5.

The retiring president, Dr. H. M. Eaton, reviewed briefly the work of the previous year.

The following officers were elected:

President, Dr. O. L. Croft; Vice-President, Dr. F. W. Johnson; Secretary Treasurer, Dr. P. S. Christie; Executive member, Dr. S. G. Ritchie; Auditors, Dr. J. F. Griffin and Dr. Hazel A. Hall.

During the meeting, Dr. W. H. H. Beck with in a brief address paid tribute to the memory of the late Dr. G. R. Hennigar expressing the loss felt by the Society and the profession alike.

Following the election, the members saw several motion picture shorts dealing with dental subjects, films loaned to the Society by Dr. Frank Cole, Faculty of Dentistry of Toronto University.

BRITISH COLUMBIA:

Vancouver Dental Society

The first meeting of the Society for the season 1944-45 was held on October 3, in the Hotel Vancouver.

The new president, Dr. N. H. Scott was in the chair.

A fine turnout of members greeted the speaker, Dr. J. S. Kitching of the Metropolitan Health Committee, Vancouver. Dr. Kitching is a graduate of Toronto in Medicine and Public Health Hygiene. He is senior Health Officer and Chief Epidemiologist of the Metropolitan Health Committee, and has proven himself to be a most capable Health Officer. He spoke on the subject of "Prevention of Communicable Diseases". He followed up his talk with the showing of two films, one on Venereal Disease and the other on Tuberculosis. The members of the Society showed keen interest in the presentation.

The Society got off to a good start with this meeting. Diagnosis and Prosthetic Study Clubs were formed and other routine business was transacted.

ALBERTA:**Edmonton Dental Society**

The first regular meeting of this Society for the 1944-45 season was held October 3 in the MacDonald Hotel, preceded by the usual dinner at 6:30 p.m.

A large representation attended, which included members from the A.D.C. and C.D.C.

Drs. Don McIntyre and Alex Cameron who attended the Ontario Dental Convention this summer, gave some of the "highlights" of the meeting. They both spoke favourably of the clinicians, exhibits and reunions. Their remarks were comprehensive and interesting and certainly gave all present a very excellent evening.

Dr. Lipsey, President, was in the chair.

It is with considerable shock that the friends of Dr. and Mrs. Grattan Roberts, one of Edmonton's most popular and respected dental surgeons, heard of the loss of their only son, Lieut. Jack Roberts, killed in action on the western front.

He was aged twenty-six and was educated at the University of Alberta and British Columbia.

•

Calgary Dental Society

This Society held a meeting at the Renfrew Club on October 10. Major E. Croff of the Canadian Dental Corps who has recently returned from Overseas, was the speaker. While there, he was attached to No. 1 Company.

Major Croff was in England and Scotland and was moved with the Company to North Africa and from there to Italy. He gave a detailed story of his personal experience which was very interesting as well as a report on the work of the Canadian Dental Corps.

Dr. D. E. Green, the President, was in the chair.

•

Dental Nurses

The second meeting of the Calgary Dental Nurses' Association, was held in the Board Room of the Herald Building on October 2, at 6:15 p.m.

Miss Sally Cuthbert, President, introduced Miss Vera White as guest speaker. Miss White gave some very interesting information concerning dental x-ray technique.

SASKATCHEWAN:**Saskatchewan Health Services Survey Commission**

Excerpt from Report of the Commissioner, Henry E. Sigerist, M.D., D.Litt. LL.D., Professor History of Medicine, The Johns Hopkins University, Baltimore, Md., U.S.A.

Presented to the Minister of Public Health, October 4, 1944.

The present Government of the Province of Saskatchewan was elected on a platform that promised "to set up a complete system of socialized health services with special emphasis on preventive medicine, so that everybody in the province will receive adequate medicine, surgical, dental, nursing and hospital care without charge". The government, of course, realized that the establishment of a complete network of health services covering all parts of the province would undoubtedly take considerable time but was determined to make a beginning in providing such a network without delay.

DENTISTRY

Dental conditions are appalling in this province. A large percentage of the population has no dental care whatsoever, and the overwhelming majority of the people has not sufficient dental care. It is no exaggeration to say that dentistry in its present organization has failed to serve the population, whatever the causes may be. Before the war, in 1938, the province had 210 dentists or 1 per 4,481 population. In 1943 the province had 147 dentists or 1 per 6,095 population. In other words, even if all dentists of the province who are in the armed forces should resume their former practice, the population would still not be served, particularly since most dentists practise in the large cities.

Since the traditional system has failed, and since dental care is an essential service in the maintenance of the people's health and prevention of disease, the Government must assume responsibility for the provision of dental care, and the following steps should be considered:

1. Provision of dental care to school children to the age of 16.

(a) In urban centres: establishment of school dental clinics with full time salaried dentists giving free dental care to school children.

(b) In rural districts: travelling dental clinics sent out from the District Health

Centres to give free dental care to school children in the Rural Health Centres.

2. A later step that might be considered would be the appointment of full time salaried dentists on the staffs of District Hospitals, giving dental care to the patients served by the hospital.

In view of the tremendous shortage of dentists the development could only be a gradual one.

The province has a crying need for a larger number of dentists. A first step to remedy the situation might be the provision of conditional grants that would enable students to study dentistry in one of the five dental schools in the country, on the condition that after graduation they would serve for a set number of years in some of the dental services of the province. Should a student fail to do this he would have to refund the grant.

If such a measure would fail to increase the number of dentists sufficiently, the creation of a School of Dentistry at the University would have to be considered.

On the whole, it is to be expected that the establishment of a certain number of adequately remunerated dental positions in the health service of the province would attract dental graduates from other provinces.

College of Dental Surgeons

At the recent election of members of the Council of the College of Dental Surgeons of Saskatchewan, only two were nominated, Dr. D. J. Brass, Yorkton, and Dr. J. L. Connell, Prince Albert; these men were elected by acclamation.

At a recent meeting of the Council which was the annual meeting, the following officers were elected: President, Dr. J. L. Connell, Prince Albert, and Dr. W. M. Blair, Regina, Vice-President.

Moose Jaw Dental Society

On October 6, this Society met for dinner as a farewell to Dr. F. C. Harwood, who left for Victoria to take up residence and practice there. On behalf of the Society, Dr. W. W. Irwin, who had practised with Dr. Harwood in Moose Jaw for the same number of years, presented him with an engraved silver tray. Drs. Brett and Fasken were present from Regina and both addressed the meeting. A

letter was read from Dr. P. W. Winthrop of Saskatchewan, expressing his regrets at not being able to be present.

The good wishes of the members of the profession in Saskatchewan and in Western Canada go with Dr. and Mrs. Harwood as they take up residence in Victoria.

MANITOBA.

Son of Dr. Dow Again Honoured

The R.C.A.F. has announced that Squadron Leader J. M. Dow, son of James A. Dow of Winnipeg, has been awarded a bar to his D.F.C. for directing a bomber, on which he was serving as navigator, over its target and back to base despite the damage it suffered from anti-aircraft fire on the way to the attack.

Manitoba Dental Association

When a World War breaks out and a man is in his early adult years the spirit of adventure, perhaps mixed with patriotism, drives the physically fit into the armed forces and they all look forward to the day when they can step on board the transport bound overseas for the fighting country.

Dr. H. F. Hollister was one of these in 1916 when he secured his license to practise dentistry in Manitoba. When his turn came to be next on the list for embarkation the war was over. Bitter disappointment!

When the present struggle began Dr. Hollister had for several years been practising in Miami, Florida. He immediately wrote his former Commanding Officer, Lt. Col. W. W. Wright of Winnipeg, who had again assumed command of the Dental Corps in Military District, No. 10., offering his services. As there was no shortage of Canadian dentists offering their services at that time Dr. Hollister's offer could not be accepted. The time came when the demand was greater than the supply of willing enlistments of Manitoba dentists and Dr. Hollister's offer was accepted. Two weeks after he was notified he had closed up his office and arrived in Winnipeg by plane and joined up with his old colonel W. W. Wright. This time he was going to get overseas but again bitter disappointment. He found he had been borne too soon for overseas assignment. However, he finally got as close to overseas as the regulations would permit. He

was sent to Halifax where he looked after the dental needs of the naval ratings.

And now comes the reward of merit. Word has come from Charlestown, N.C., that he has been posted as dental officer on the staff of a new Canadian cruiser, with the most complete and modern Ritter dental equipment and a crew of 900 to keep him busy. His is the first appointment of a C.D.C. officer to the staff of a Canadian battle cruiser as far as we have heard.

Captain Hollister's ambition at present is no doubt to get close enough to Japan to "Praise God, and (help) pass the Ammunition".

Dental Nurses and Assistants

The Winnipeg Dental Nurses and Assistants Association held its opening dinner meeting of the season on September 11 at the St. Regis Hotel. The president, Hazel Wylie, presided at the meeting. Plans for the activities for the coming year were announced. It was decided that the annual Christmas Turkey Raffle would be held and that tickets would be available shortly.

Presentations were made to two members who were married during the summer, Mrs. Gold, the former Emily Grant and Mrs. Granovsky, the former Sybil Grosney.

ONTARIO:

Annual Winter Clinic Academy of Dentistry

The Academy of Dentistry, Toronto will hold the Annual Winter Clinic on Wednesday, November, 29 the Royal York Hotel under the chairmanship of Dr. Harold Swales, Toronto.

The features will be the two "Limited Attendance Clinics" presented by Dr. Edward T. Butler, Buffalo, N.Y., on "Review of Local Anaesthetics and Premedication" and Dr. Edward J. Mehringer also of Buffalo, N.Y., on "Amalgams". The fee for these clinics is \$1.00 each. Ten other group clinics will make a complete day of instruction and inspiration.

An excellent speaker has been secured for the luncheon and refreshing entertainment for the dinner.

Table clinics and exhibits will be presented in the Clinics Hall until 10.00 p.m.

Out-of-town dentists are cordially invited



DR. A. H. HUDSON
Timmins, Ontario

Presiding Officer of the Northern Ontario
Dental Convention held at North Bay on
September 2.

to spend the day with us and may register for a fee of \$3.00. Luncheon and Dinner tickets may be secured at the registration desk.

Nurses and assistants of all registrants are welcome to attend all clinics during the day with the exception of the "Limited Attendance Clinics". Dr. Mehringer has arranged to repeat his clinic on "Amalgams" for the nurses at 5.00 p.m.

Avoid disappointment by registering early.

War Casualties

There can be no doubt, these are days filled with optimism and hope for some of us but of pain with shattered lives and broken futures for many others. The end of the great human struggle on world battle fields seems to be nearing a close, but many young people are paying daily with their lives that we at home may live in our way of life. News of casualties and of the missing brings sadness and sorrow to many homes of our Canadian dental family. Causality lists in the Ontario press have recently carried the names

of several young men from dentists' families among those killed in action wounded or missing. Among those who have paid the supreme sacrifice are: Lt. David B. Armstrong, son of Dr. E. F. Armstrong of Cobalt, killed in France; Sgt. A. F. Devine, son of Dr. C. J. Devine of Beaverton, killed in Italy; Lt. Morgan J. Murphy, son of Dr. Harold J. Murphy of Toronto, killed in Italy; Flying Officer C. R. Floyd, son of Dr. S. T. Floyd of Toronto, killed in action overseas. Those reported missing are Pilot Officer Wm. H. Fuller, son of Dr. W. J. Fuller of New Liskeard and Sgt. G. A. Marshall, son of H. G. Marshall of London. In addition to these Lt. J. H. Burnet, son of Dr. A. C. Burnet of Burlington and Lt. George Bean, son of Lt. Col. Harvey Bean, have been reported wounded. To those who are called upon to suffer bereavement and also to those enduring anxieties as they await the mails, to all of these, and no doubt many others whose names are not available, is extended a sympathy perhaps inexpressible because of its genuine sincerity.

T.R.M.

Accidentally Killed

Douglas Murray, youngest son of Dr. and Mrs. Gordon Murray, Toronto, was killed in a motor cycle accident on October 6. "Dougie" as he was affectionately called, was an outstanding student at University of Toronto Schools. He was a good athlete, and very popular with everyone. His death at the age of sixteen brings great sorrow to the family circle and a host of young friends. To his brother "Bob", a dental student in his fifth year and to Gordon and Mrs. Murray, his parents, their many dental friends extend their sympathy.

Dental Nurses' Alumnae Association

The Dental Nurses' Alumnae Association held its Annual Mother and Daughter Banquet on October 10, at Diana Sweets.

The President, Mrs. Gertrude Walker, welcomed the guests and their mothers. Mrs. E. Bryson, grandmother of the President, said grace. After dinner Miss Jeanne Alison, music convener, introduced Miss Elizabeth Watson who sang three selections. A vote of thanks was moved by Miss Henrietta Mann.

The guest speaker of the evening, Miss

Grace Stoye, was introduced by Miss Lillian Potter. Miss Stoye, who is from the Elizabeth Arden Salon, Toronto, gave a very interesting talk and demonstration on "The Care of the Skin". Miss Betty Broadribb thanked the speaker.

Ida E. Davies

Ontario Dental Nurses' and Assistants' Association

Patriotic Donators and Knitters Club:

We regret that space does not permit us to share all the letters of appreciation that we receive. However, Captain G. A. Germain's letter, published below, expresses the thought contained in them all:

Dear Mrs. Blaber:

On behalf of the lads who shared the parcels, I want to thank the members of the P.D.K.C. and send you their deepest appreciation with my personal thanks.

I wish to say, and I sincerely mean it, that I have seen a great many parcels come to the boys . . . yours are unquestionably the best and most usefully assorted yet received.

The morale of the troops is high, and it is largely maintained at this level through the work, effort and gifts of organizations such as yours. The boys know they are not the "forgotten men," so to speak, and my personal thanks goes to each and every member of your club.

Sincerely,

Captain G. A. Germain,
R.C.A.S.C., England.

TORONTO AFFILIATED ASSOCIATION:

"Orchids" to Mabel Betson, Social Convener, and her committee for the successful dinner meeting held at Haddon Hall on September 11. No guest speaker was invited, but Mabel had an interesting program arranged. We all left, knowing the other members better.

"The Dental Assistant in Relation to Dental Public Health" was the subject of Dr. R. P. Lowery at the second general meeting on October 2. Admittance to that meeting was two or more chocolate bars to be sent overseas. Two hundred and twenty-five bars were received.

LONDON AFFILIATED ASSOCIATION:

Miss Owen from the Department Advisory Committee outlined the procedure for assist-

ing men in the Armed Services and their dependents. This address proved most interesting and educational because few of us realized the problem which must be met by this Committee.

KITCHENER AFFILIATED ASSOCIATION: The first meeting was held in the home of Ruth Janke, President. It was an informal get-together to plan the meetings for the coming season. A contest to increase the local treasury was organized and each member is most enthusiastic to assist in making it a success.

October 4, was the evening of the second meeting held in one of the local offices. Two new members were welcomed. Ruth Janke con-

ducted a helpful quiz on dental terminology and a lively discussion on general and individual problems followed.

OTTAWA AFFILIATED ASSOCIATION: The Ottawa Affiliated Association met in the offices of the Ash Temple Company on September 20 for the first meeting of this season. Mr. Harry Hall, one of the Eastern Dental Association clinicians, very kindly repeated his clinic on Acrylics. Our sincere thanks go to Mr. Hall for this interesting and instructive clinic.

We were well represented at the Eastern Dental Association Convention and four interesting table clinics were presented by our members. Arlene Jimison Creeny.

GENERAL NEWS

Dominion Dental Council Examination

The Dominion Dental Council Examination will be held in Edmonton, January 2 to 6, 1945. All fees should be in the Secretary's office not later than December 1, 1944.

A. J. Brett, Sec.-Tres.
Regina, Saskatchewan.

Midwinter Meeting, Chicago Dental Society

The 81st Midwinter Meeting of the Chicago Dental Society will be held February 12 to 15, 1945, at the Stevens Hotel.

As in previous years the meeting will consist of a series of practical and interesting essays, limited attendance clinics, question and answer periods and table clinics. The meeting will also include a large commercial exhibit at which all important firms in the dental field will be represented.

A Distinguished Canadian Dental Family

It has just been announced that Captain Douglas G. Cameron, R.C.A.M.C., Ottawa, has been awarded the Military Cross for gallantry in treating and rescuing wounded under severe enemy fire while serving as a medical officer to an infantry battalion in Italy.

Captain Douglas G. Cameron received his B.Sc. degree from the University of Saskatchewan and his medical training at McGill Uni-

versity where he was graduated with distinction in 1940. He was the 1939 Rhodes Scholar from Saskatchewan. He is the eldest son of Colonel Geo. Lynch Cameron, O.B.E., D.S.O., V.D., Canadian Dental Corps Headquarters, Ottawa, who was appointed an officer of the Military Division of the Most Excellent Order of the British Empire by the King on the occasion of the last celebration of His Majesty's birthday.

Colonel Cameron's second son, Captain Bruce Cameron, is with No. 9 Coy., Canadian Dental Corps, which Company was the first to land in France after "D" Day.

His youngest son, Gordon, is enlisted in R.C.A.M.C. as a medical student at McGill University and expects to graduate under the accelerated course next July and in due course, receive his commission as a medical officer.

Colonel Cameron's son-in-law is also in France with No. 8 General Hospital.

Letter from Overseas

A-86156 L/Cpl. Farr, P. F.,
1 Cdn. Corps Tps. W/Shop,
R.C.E.M.E., C.M.F., C.A.O.,
25 Sept., 1944.

Dear Sir:

1. Actually it is fairly difficult to know who to write to so that one may express his appreciation in this case.

2. However, I choose to write you to let you know how grand a job the Canadian Dental Corps in Italy is doing.

3. When joining the Army my imagination of Army Dentists, according to gossip of course, was one of pain and great torture.

4. That imagination has turned completely to a feeling that you want to see the Army Dentist as often as you can, because we know we obtain the best of treatment and care.

5. I think that most Dental Officers will have a successful future after the Scrap is over.

6. The Dental College has contributed to this necessary cause in a magnificent manner.

Yours very truly,

(signed) P. F. FARR

Addressed to:

The Dental College of Canada,
University of Toronto.

Revocation of Dental Licenses Upheld by Circuit Court of Cook County, State of Illinois, U.S.A.

On October 7, the Honourable John Prystalski, Judge of the Circuit Court of Cook County, sustained the Department of Registration and Education in the revocation of the dental licenses of four Chicago dentists.

The complaints against these dentists charged them with being professionally connected with AAA Dental Laboratories, Inc., plus lending their names to that laboratory for the illegal practice of dentistry. It was also charged that their association with this advertising laboratory constituted unprofessional and dishonourable conduct on the part of the dentists.

The evidence presented at the hearings before the Dental Examining Committee was that the AAA Dental Laboratories were in the business of selling dental plates to the public; that they conducted an extensive advertising campaign and that when people responded to these advertisements they were referred to the above named dentists for the taking of impressions which were used by the laboratory in the making of dental plates.

In his oral decision Judge Prystalski pointed out that in the ordinary course of events patients present themselves to dentists to have impressions taken and that it is the dentists who send the impressions to dental laboratories, but in the case before the Court, the patients presented themselves directly to the dental laboratory and were sent from

there to the above named dentists. Consequently, these dentists were in effect an adjunct of the said dental laboratories; were lending their names to the laboratories, and were guilty of unprofessional conduct.—Press Release, Chi. D. Soc.

U.S.A. Army Plans Release of "Several Hundred" Dental Officers in Near Future

With the peak of the work load past, several hundred dental officers will be relieved from active duty with the Army shortly, permitting their return to private practice, the War Department announced September 25.

The Army's biggest job in expanding and organizing the Dental Corps for war was to bring into the service enough dentists to perform necessary repair work on the teeth of the men in uniform. Since Pearl Harbor more than 1,000,000 new dentures have been supplied, and approximately the same number of men made dentally fit for general military service.

Now that this has been done, the problem for the future will be to keep the teeth of the men in the Army up to required military standards. This will require fewer dental officers than were needed for the earlier and heavier responsibility.

Practical Dental Planning

Condensed from editorial by J. A. Salzmänn in N.Y. Jour. of Dentistry, Oct. 1944.

In New York City, Mayor F. H. LaGuardia has announced that incorporation papers for the Health Insurance Plan of Greater New York, calling for a comprehensive plan of medical and surgical care for all persons living or working in the City and earning not more than \$5,000 a year have been filed with the State Board of Social Welfare and the Superintendent of Insurance.

The roster of incorporators includes leaders in the fields of medicine, industry, business, banking and finance, labour and social welfare, as well as official representatives of the city and spokesmen for the general public. It does not include representatives of dentistry or of the five County medical societies of Greater New York.

Spokesmen for medical societies indicated, when the Mayor made his plan public in

April, that they considered as excessive the \$5,000 ceiling on incomes of persons eligible to join the plan. The medical organizations would go along with the Mayor's proposal on the basis of a \$2,500 ceiling.

The Health Insurance Plan of Greater New York ignores dentistry altogether. In the June-July issue of the *Journal* we pointed out in an editorial that a complete dental program for the children of the City of New York could be provided at the nominal cost of \$4.00 annually per child. Such a program would be an important adjunct to the proposed Health Insurance Plan and would eventually make possible the inclusion of dental care for adults in the Plan itself, by doing away with the backlog of dental decay which makes dental care on a population basis virtually impossible at present.

Health Service Proposed for All Federal Employees in the U.S.A.

A bill to provide industrial medical service for all federal employees, the current total of whom is about 2,700,000, was endorsed August 22 by officials of the federal government at hearings before the Committee on the District of Columbia of the House of Representatives. A representative of the American Medical Association also testified in favour of such a bill.

Thomas Parran, Surgeon General of the U.S. Public Health Service, said that the services contemplated would include a good replacement examination, covering a chest x-ray examination for tuberculosis, minor medical and dental care, minor care for emotional disturbances, a nutritional effort, checks on environmental factors, such as bad lighting and control of contagion and infection, and some routine care in pregnancy. The program, he estimated, would cost less than 1 cent per day per public employee.—*Jour. of A.D.A.*

Massachusetts Dental Society

This Society representing more than twenty-five hundred of the approximate three thousand practising dentists in Massachusetts has announced the results of its relocation survey designed to aid in the re-establishment of World War II dentists.

In the first hundred replies from peace-time dentists, one out of four indicated a

desire to engage the services of a returning World War II dentist while four indicated that they intended to retire, thus making their practices available to veteran dentists. Ninety-eight out of one hundred offered their services to help locate these men. More than forty-eight critical areas for dentists were revealed.

Another interesting result was the increased demand for dental personnel, hygienists, assistants, laboratory technicians and increased opportunities in hospital, school and industrial clinics.

U.S.A. Army Dental Corps Has 90,000 Appointments Daily

The following statement has been issued by the Dental Division of the Surgeon General's Office:

The Army Dental Corps at this time has more than 90,000 appointments each day. These thousand upon thousands of men and women are receiving and formulating certain opinions regarding dentistry and dental service which are in all probability being carried home as well as into their respective communities. The comments that are heard in the barracks, on the drill and battle field, will influence their thinking as well as their desires for dental treatment.

An unbelievable number of men have never been to a dentist. They were not familiar with the dental chair, surgical procedures, prophylactic needs, and the comforts that could be established through restored teeth or dentures. Such individuals have learned much regarding health, its influence upon life in their every day work, and the needs for dental treatment. It is an educational experience for this section of the population that could not have been gained in years of public relations work.—*Jour. of the A.D.A.*

Less Vitamin C

Vitamin C is good only for the prevention and treatment of scurvy, and for prevention only very small amounts are needed, in the opinion of two Navy doctors, Lieut. Michel Pijoan and Lieut. Comdr. Eugene L. Lozner, who discuss the subject extensively, (*New England Journal of Medicine*, July 6).

The two Navy doctors concluded that no extra vitamin C is needed to speed wound healing in patients who do not have scurvy.

They also disagree with the views held by some other scientists that vitamin C, beyond the amount needed to prevent scurvy, would

be good for pyorrhea, rheumatic fever, tuberculosis or stomach ulcer patients on the Sippy diet.—A.D.A. Bulletin.

IN MEMORIAM

Harold William Hoag of Toronto, Ontario, aged 54, died September 25. He was graduated from the Royal College of Dental Surgeons of Ontario in 1919 and was a member of the staff of the School of Dentistry, Royal College of Dental Surgeons from 1919 to 1923.

He was a past president of the Toronto Academy of Dentistry and of the Toronto East Dental Association. He was president of the Uptown Optimists club in 1941-42. He was a past master of Huron-Bruce Lodge, A.F. and A.M., and an active member of Bloor Street United Church.

Dr. Hoag is survived by his widow, a sister and a brother.

ferred upon him the degree of Doctor of Dental Science, *ad eundum gradum*.

•

Edward W. Holmes of Toronto, Ontario, aged 64, died on October 11, three weeks after the death of his wife. He was graduated from the Royal College of Dental Surgeons of Ontario in 1919 and practised dentistry in Toronto until his death. He was a member of Yonge Street United Church.

Dr. Holmes is survived by a brother and a sister.

•

Percy Arthur Ash, Editor of the Dental Journal of Australia, died July 21. He was graduated from the University of Pennsylvania, U.S.A., in 1903. For 20 years he practised in Sydney and then relinquished his practice to become manager and editor of the Journal of the Society of Dental Science, New South Wales, and later was appointed Editor of the Dental Journal of Australia, a post which he held to the end.

Dr. Ash was a man of integrity, culture and with a high sense of honour and on account of his distinguished service to dentistry, the University of Sydney con-

D. Alton Anderson of Exeter, Ontario, died September 18. He was graduated from the Royal College of Dental Surgeons in 1894 and practised for some time in London previous to his retirement when he moved to Exeter.

Dr. Anderson is survived by his widow.

•

C. G. J. Walker of Dauphin, Manitoba, died in October. He had been registered in Manitoba since 1901 and was in active practice with the Canadian Foundation of Preventive Dentistry, looking after the dental needs of the school children in the rural areas at the time of his death.

... SECTION FRANÇAISE ...

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.,

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenant, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Venne, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAUDEAU, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

Les abcès dentaires

Les Divers Traitements—L'Ionisation

par le docteur ALCIDE THIBAUDEAU

Il y aura bientôt dix-sept ans que je pratique avec succès l'ionisation des dents abcédées. Mon enthousiasme au lieu d'avoir subi le refroidissement naturel qu'on ressent après quelques années d'expérience, n'a fait qu'augmenter. En effet j'ai dû traiter de 6 à 700 cas et les succès furent si rares que je n'oserais en faire le pourcentage de crainte de paraître exagéré.

J'étais sous l'impression que tous les confrères de la province connaissaient le traitement, mais n'y recouraient pas parce que leurs patients s'y refusaient. La semaine dernière plusieurs membres de la Société Dentaire m'ont appris qu'il n'en était pas ainsi. Les uns ne s'en servent pas parce qu'ils ne le connaissent pas. Quelques-uns en ont bien entendu parler, mais n'ont pas trouvé le moyen de convaincre leur patient que ce serait bien plus avantageux de conserver une dent et bien moins coûteux que de la faire extraire et payer ensuite un appareil pour la remplacer. D'autres trouvent que le traitement est trop long et n'ont pas le temps de s'en servir. Enfin la plupart n'ont pas d'appareil et il s'en trouve parmi eux qui craignent d'envoyer leur patient chez un confrère de peur de le perdre. Je souriais volontiers, mais il paraît que c'est sérieux. Pour ma part plusieurs confrères de Montréal et des villes environnantes m'envoient de leurs patients à qui je ne fais rien autre chose que l'ionisation, à moins que le confrère ne m'en prie tout spécialement. J'espère que nous comprenons mieux l'entraide professionnelle et que le temps est déjà loin où les charletans se volaient leurs clients.

Pour répondre à de multiples demandes, me permettra-t-on d'exposer ici quelques notions élémentaires, mais nécessaires à tout praticien, au sujet des abcès dentaires.

Les abcès dentaires devraient être classés parmi les maladies les plus graves de l'organisme, parce que c'est souvent de la façon la plus sournoise qu'ils conduisent leur victime aux états pathologiques les plus lamentables, quand ça n'est pas jusqu'à la mort.

Ce problème des infections dentaires n'est pas nouveau et je le crois bien, pas à la veille d'être résolu. C'est toute la question de l'hygiène qui se pose, celle de l'éducation des masses et peut-être aussi la nôtre. Car peut-être devrions-nous mieux savoir ce qu'il ne faut pas faire pour n'être pas la cause de nombreuses mortifications pulpaire.

Je ne voudrais cependant pas exagérer et déclarer coupable tous les praticiens qui après avoir fait leur devoir sont la cause indirecte d'une infection quelconque. Il y aura toujours des organismes affaiblis, sujets aux invasions microbiennes, comme il y aura toujours des dents infectées. Cependant je considère coupable celui qui enlève certaines dents abcédées sans avoir averti son patient qu'il existe un traitement efficace contre ce mal.

Les années, comme je l'ai dit plus haut, m'ont convaincu que l'ionisation est le moyen thérapeutique le plus efficace pour enrayer les infections ultra-apicales et arrêter en peu de temps les périapexites les plus aiguës.

La médecine nous enseigne que l'infection est un état pathologique développé sous l'influence des toxines. Dans notre domaine, certaines infections spontanées surgissent sans causes apparentes, grâce à des bactéries banales, qui s'exaltent à mesure que notre résistance diminue. Mettant de côté les troubles périodentaires, gingivites, pyorrhée et autres, énumérons simplement les lésions qui résultent généralement des caries du 4^{ème} degré et de certaines obturations dévitalisantes.

Dans ces caries très profondes, qui atteignent toujours la pulpe, les tissus ramollis, putréfiés, sont imprégnés de micro-organismes très variés des espèces aérobies et anaérobies.

De toutes les complications qui surviennent, la première est l'infection radiculaire pure et simple. Viennent ensuite l'infection diffuse ultra-apicale qui amène la périostite et après elle; la fluxion, l'abcès avec ou sans fistule visible, l'hypercémentose, les kystes radiculaires, la nécrose du maxillaire, les adénites, les contractures musculaires, l'empyème du sinus, etc. Enfin les troubles généraux extra-dentaires, dont je ne parlerai pas, si ce n'est pour remarquer qu'il est bien regrettable de voir encore des spécialistes de l'oeil, soigner si longtemps et sans succès des troubles, que le dentiste pourrait guérir en si peu de temps. De toutes ces lésions, l'infection radiculaire, l'infection ultra-apicale diffuse, l'abcès avec ou sans fistule apparente, certaines formes de nécrose débutante et le granulome, sont toutes susceptibles de guérisons sans intervention chirurgicale.

Les cas qui doivent être traités ne s'imposent pas toujours à notre attention avec l'évidence aveuglante du cas fistuleux ou à la veille de l'être. Il faut avoir recours aux Rayons-X, mais avec défiance, en soumettant ses données à celles de la raison. Si les Rayons-X sont positifs, il y a peu de doute possible. Mais, s'il sont négatifs, c'est à l'examen clinique bien fait et bien raisonné seulement qu'il faudra se fier. On ne saurait trop se mettre en garde contre cette curieuse méthode encore trop en vogue de se servir de son nez pour faire des diagnostics. D'ailleurs outre que c'est une coutume dangereuse pour le praticien et pour le moins peu élégante, c'est une erreur absolue de croire qu'une infection radiculaire a toujours une odeur sui generis, et que tout est parfait quand notre odorat ne perçoit plus que le doux arôme de l'iodeforme, de la créosote ou de l'eucalyptol. J'ai déjà prouvé expérimentalement que ces substances ne sont pas toujours germicides et si j'ai bonne mémoire, en apprenant la chose, des bactériologistes de la Faculté de Médecine ont répété l'expérience avec les mêmes résultats.

Prenons donc pour acquis qu'à de très rares exceptions près, seules les racines débarrassées de pulpes physiologiques et remplies dans les meilleures conditions, sont sans danger. Les autres sont pathologiques et la stérilisation s'impose.

Dans les cas bénins et chez des sujets robustes, les méthodes osmotiques, c'est-à-dire l'application répétée de pansements, réussiront peut-être mais dans la plupart des cas c'est la faillite à brève échéance ou simplement retardée. Si nous n'en avons pas connaissance, c'est que notre patient est allé ailleurs, ou plus souvent encore souffre d'infection qui se généralise sans qu'aucune douleur dentaire l'en avertisse.

Voyons donc brièvement quelle est la marche suivie par l'infection, quels sont les divers traitements préconisés et leur chance de succès. Nous verrons ensuite comment l'ionisation peut guérir et sauver beaucoup de dents.

Malgré les affirmations les plus catégoriques, je crois difficile d'admettre aujourd'hui qu'un manque de soin local peut être la cause de la carie. Assurément la malpropreté la favorise considérablement mais n'en est pas la cause. Quand pour une raison ou pour une autre une fissure se produit dans l'émail protecteur de la dentine, les agents destructeurs et les bactéries tombent immédiatement dans la couche la plus vulnérable de la dentine celle de Tomes.

Granuleuse, parce que mal calcifiée remplie de liquides cette couche est en relation directe avec la pulpe par l'entremise des canalicules, prolongement intra dentinaire de la cellule odontoblaste. C'est dire que la pulpe se ressent tôt d'une atteinte à l'extérieur de la dentine. Si la marche de la carie n'est pas entravée la pulpe est atteinte. De la irritation, hyperhémie, mortification, putréfaction, destruction de la membrane de l'ivoire (couche de cellules odontoblastes) et diffusion des bactéries dans toutes les directions. D'abord vers l'apex ou elles finiront par vaincre la défense phagocytaire, plutôt faible à cet endroit, pour se répandre dans toute la région péri-apicale. Si rien à ce moment ne vient entraver l'infection, commence l'ostéolyse, cause de cette raréfaction visible aux rayons-X. Le front d'attaque à ce moment est plus étendu et la défense redouble d'efforts. Une gaine de tissus fibreux s'organise autour de la lésion, pour en circonscrire les dégâts, et forme une poche kystique qui peut subsister longtemps à l'insu du malade. Aucune douleur souvent mais que de préjudices ce foyer d'infection peut-il causer aux yeux, aux articulations et à cent autres points de l'organisme. D'où nécessité de l'examen radiologique. Si la destruction est trop considérable le pus se trouvera un chemin plus rapide que la grande circulation, se répandra dans les tissus mous, provoquera de l'oedème, percera la muqueuse gingivale pour s'échapper dans la bouche. Si le sujet n'a pas tout de suite des troubles d'estomac, il n'en est pas moins un pyophage donc un futur dispeptique. Pendant tout ce temps la dent et surtout son canal radiculaire devient un incubateur où sans la moindre défense phagocytaire, se développent à leur aise toutes les bactéries qui y ont trouvé asile. Elles se développent en si grand nombre qu'elles envahissent les canalicules de Tomes pour aller coloniser les espaces inter-globulaires de Czermack. Tomes lui-même nous assure que les nouveaux colons sont si prospères en rejetons qu'ils font éclater la gaine de Newman. Et comme nous le savons ces canalicules se rendent jusqu'à la couche granuleuse autre région fertile à cause de ses nombreux lacs tous en communication à travers le ciment, avec la membrane péri-dentaire. Donc, voie libre à l'infection, du canal radiculaire à l'os du maxillaire.

Thérapeutique préconisée.

Méthode osmotique ou de pansements avec chance de succès, nous l'avons déjà dit, seulement dans les cas bénins du début et seulement chez les sujets exceptionnellement robustes.

Apectomie:

Opération chirurgicale rarement nécessaire excepté dans le cas où l'apex hypertrophié est rempli de végétations irritantes.

Curettage apicale:

Souvent nécessaire quand l'abcès est en cul-de-sac le long de la racine et non à l'apex. Cette opération nécessite la stérilisation de la racine avant l'intervention et est complètement inutile si l'abcès est à l'apex. Sans la stérilisation de la racine, il peut y avoir un succès apparent qui peut durer jusqu'à deux ans, mais il y aura presque toujours récurrence par la voie des canalicules et du périoste. D'ici à ce que la Pénicilline nous vienne tout changer, il semble bien que l'unique moyen connu de bien stériliser une racine et un abcès soit l'ionisation.

L'ionisation:

Avant 1927, le traitement des infections ultra-apicales par l'ionisation était peu en vogue aux Etats-Unis comme au Canada. A Montréal, seul Baxter faisait de louables efforts pour appliquer ce traitement et réclamait des résultats satisfaisants dans 50% des cas. Vers le même temps, Bernard, à Paris, expliquait avec une science incontestable, le mécanisme et la logique de ce traitement pour conclure, avec optimisme, à 100% de succès.

Convaincu, par la théorie, de l'excellence du traitement, et intrigué par la différence entre les résultats obtenus par ces deux confrères, j'entrepris à mon tour l'étude de l'ionisation.

Une année durant, j'expérimentai, soit avec des appareils sur le marché, soit avec des appareils de mon cru et j'en vins aux conclusions suivantes:

1°—Le Dr Baxter n'obtint que 50% de résultats efficaces parce que dans la moitié des cas, sa technique permet des erreurs et empêche l'ionisation d'avoir lieu.

2°—Je me raillais plutôt à l'opinion du Dr Bernard et je crois la guérison possible dans 100% des cas, pourvu qu'ils soient traitables. Voilà pourquoi je m'étonne que le Dr Bernard ait obtenu de si remarquables succès en traitant indifféremment tous les cas.

Dès 1928, j'établissais en principe que seule, une technique rigoureusement et méticuleusement suivie assure un entier succès, mais encore à condition d'avoir bien diagnostiqué une dent traitable d'une autre condamnée à l'avulsion.

Je n'hésite pas à répéter mes explications, si simples qu'elles puissent paraître, car je ne voudrais pas que la vulgarisation mal comprise de l'ionisation fit plus de mal que de bien. En effet, tout comme en céramique, les insuccès attendent tous ceux qui négligent de bien se pénétrer des secrets de l'art. Le prix d'un appareil n'est certes pas le prix du succès et on aurait tort de s'en rapporter au coût élevé d'un instrument pour croire inutile l'observation des détails minutieux, indispensables au succès de l'ionisation.

L'ionisation, c'est la dissociation d'un corps en ions par un courant électrique.

Ce traitement, qui consiste à faire pénétrer, dans les tissus, des ions médicamenteux au moyen d'un courant électrique, s'appelle ionothérapie.

Je ne dirai rien ici de la construction des appareils. J'ai constaté que mes descriptions par trop sommaires avaient induit des confrères à se confectionner des appareils pleins de menaces pour la vie de leurs patients. Je me contenterai de dire que si l'instrument est un rectificateur à lampe, il doit être muni d'un dispositif éliminant tout danger possible de court-circuit avec le sol. L'achat d'un ionisateur exige donc que le dentiste s'assure, au préalable, que l'instrument convoité donne toute la sécurité voulue pour le patient.

Voyons maintenant:

- 1—L'appareil.
- 2—L'action physique et physiologique des courants.
- 3—Les médicaments recommandés.
- 4—Quelles dents doivent être soumises à l'ionisation?
- 5—Point de trépanation.
- 6—Enfin la technique rigoureuse à suivre.

L'appareil

Il faut une source de courant continu aussi rectiligne que possible. Que ce soit une pile, une dynamo ou un rectificateur à lampe, je crois que ça n'a pas beaucoup d'importance.

Il est important qu'il soit de faible voltage, 40 à 45 voltes et d'une très faible intensité. Depuis que j'ai donné des explications plutôt sommaires sur la construction possible de certains appareils beaucoup plus simples et moins dispendieux que l'appareil Ritter, il en est paru toutes sortes sur le marché qui ne remplissent pas les conditions nécessaires. Il en est même de fort dangereux qui exposent le patient à de violents chocs par court-circuit avec le sol.

Il est nécessaire que la machine possède un réducteur de potentiel ou rhéostat capable de limiter exactement et sans heurt à la quantité voulue le débit de sa source.

Un milliampermètre pour en mesurer le débit.

Des fils conducteurs et des électrodes c'est-à-dire une pièce métallique que le patient peut tenir dans sa main et l'autre un fil de platine qui s'applique à la dent.

Il ne faut pas commettre l'erreur de remplacer le platine par du cuivre ou de l'acier, car ces métaux se décomposeront par électrolyse et risqueront de violentes colorations.

Les courants

(a) Leur action physique.

Pour faire de l'ionisation, c'est entendu, il faut un courant continu aussi rectiligne que possible, un pôle positif et un pôle négatif.

Selon le médicament que nous voulons décomposer, nous appliquons l'un ou l'autre des pôles dans la dent, pendant que le patient tient de sa main le pôle opposé. Avec un médicament électro-positif, il importera alors d'introduire la tige du pôle négatif dans le canal radiculaire: avec un médicament électro-négatif, l'opération sera renversée.

Pour bien comprendre les phénomènes qui se produisent au cours de ce traitement électrolytique, reportons le tout au laboratoire. La dent devient une cuvette dans laquelle on place une solution quelconque, disons pour le moment de l'iode de potassium IK. Dans la cuvette se trouve une électrode en platine reliée au pôle négatif. La cuvette elle-même, plus ou moins perméable mais conductrice, est reliée au pôle positif. Sous l'influence du courant, la molécule IK se dissociera en deux ions I et K. L'un I électro-positif s'en ira vers les parois de la cuvette, (en l'occurrence, les canalicules de la dentine et les tissus ultra apicaux), les pénétrera pour atteindre le pôle positif qui est à l'extérieur, (la main du patient).

L'autre K. en liberté aussi et électro-négatif se dirigera vers le pôle négatif (la tige de platine). En même temps que l'hydrogène s'accumule autour de ce pôle négatif, l'oxygène, grand composant des acides, pénètre la cuvette (ou les tissus) pour atteindre le positif.

Voilà pour l'action principale des courants électriques.

N'allez pas douter de la pénétration des tissus par les ions d'iode. Ensich a fait passer des ions I. d'une cuvette en une autre en se servant d'une grenouille comme liaison ou conducteur entre les deux cuvettes. Stephen Leduc de Nantes, a pris deux lapins qu'il a séparé l'un de l'autre par de grosses éponges remplies d'eau. Sur le flanc libre du lapin de gauche, il appliquera une électrode positive imbibée de sulfate de strychnine et au lapin de droite, le pôle négatif chargé de cyanure de potassium. Il établit le courant et en peu de temps le lapin de gauche présente des convulsions tétaniques de la strychnine, tandis que celui de droite meurt empoisonné par le cyanure. On ne pourrait démontrer plus clairement la pénétration même abondante des solutions dans les tissus de l'organisme. En intervertissant les pôles, l'auteur, dans une expérience nouvelle, constate que ces lapins restent en parfaite santé.

(b) Leur action physiologique.

Appuyés sur des faits certains, voyons maintenant les effets physiologiques. Les

cellules et les espaces intercellulaires sont des milieux qui contiennent une moyenne de 70% d'eau et de chlorure de sodium. C'est dire que ces tissus sont de bons conducteurs. Le pôle positif a sur les tissus une action sédatrice. Par son acidité il coagule les albuminoïdes, fait contracter et durcir les tissus. Il est vaso-constricteur et germicide. C'est avec ce pôle qu'en 10 minutes on peut faire cesser les périostites les plus aiguës, en utilisant bien entendu un médicament électro-négatif tel le chlorure de sodium. Le pôle négatif, par son alcalinité caustique, agit comme le potassium et la soude. Il ramollit, désagrége les tissus. Vaso-dilatateur, il augmente la circulation pour faciliter l'élimination. Il n'est pas germicide, mais c'est autour de lui que s'accumule l'oxygène. Et si l'on en croit Dunlop, ce gaz a une affinité toute particulière pour les tissus infectés. Toutes ces propriétés sont exactement celles qu'il nous faut pour guérir un grand nombre de lésions péri-apicales.

3—Les médicaments recommandés.

Si nous ajoutons à ce pôle une solution d'iodure de potassium, cette substance dissociée par le courant fera pénétrer dans la lésion des ions d'iode qui ont à leur tour des propriétés merveilleuses. Paul Duherm, Jean Dubost, Stéphen Leduc, Bourguignon et d'autres nous disent que l'action sclérolysante et résolutive des ions d'iode est une des plus remarquables et des plus constantes qu'il soit donné d'observer en ionothérapie. Il en est ainsi de son action régénératrice et germicide. Ces qualités nous suffisent. A quel titre faut-il l'employer? Théoriquement il est avantageux d'employer une solution à faible pourcentage car, prétend-on les ions libres y sont plus nombreux. En pratique, j'ai toujours employé l'iode Churchill à cause de son aptitude particulière à subir la capillarité, qualité qui nous assure le remplissage parfait du canal radiculaire. A mon humble avis, l'iodure de potassium donne des rendements tels en médication électrolytique que je doute qu'on lui en trouve de supérieur.

4—Quelles dents doivent être soumises à l'ionisation?

Voici la question délicate. Si comme le Dr Bernard nous l'a dit, toutes les dents dévitalisées peuvent être traitées, la réponse devient simple. Mais je doute qu'il en soit ainsi. On obtiendra bien une stérilisation complète des tissus et de la dent, c'est admis, mais ce qu'il faut assurer ensuite c'est la permanence de cette stérilité. Or dans les canaux inaccessibles aux instruments et aux substances obturatrices, les liquides pénétreront pour s'y corrompre de nouveau en offrant aux microbes de passage un asile de toute sécurité. Pour le moment cherchons le juste milieu. L'expérience nous forcera peut-être à modifier notre opinion plus tard, mais aujourd'hui considérons que seules peuvent être traitées avec succès les lésions situées à l'apex de canaux radiculaires aisément pénétrables et surtout faciles à obtenir. En dehors de cette voie les succès sont souvent surprenants mais plutôt aléatoires.

5—Point de trépanation.

Quand on veut faire un traitement de canal il n'est pas indifférent que la dent soit ouverte n'importe où. La règle vaut pour tout traitement radiculaire. Il faut pour les incisives que l'ouverture soit à l'extrémité du canal et non dans le côté de la dent même si la carie est latérale. Donc sur l'incisive centrale la trépanation se pratique dans la partie concave à l'extrémité du talon.

La latérale, au centre de face linguale plus près du bord incisif que du trou basésaire.

La canine, tout près de la pointe quand c'est impossible de passer par la pointe elle-même sans mutiler la dent.

Quant aux prémolaires et aux molaires c'est toujours au centre de la face triturante.

6—Technique.

Elle est relativement simple, mais doit être suivie rigoureusement.

L'ouverture du canal doit être telle que limes et tire-nerfs puissent y pénétrer sans

être pliés. Éviter autant que possible l'élargissement mécanique du foramen apical, s'il n'est pas oblitéré.

Les instruments les plus appropriés pour l'élargissement d'un canal, sont les limes de Kerr, employées successivement par ordre croissant. Il faut éviter de sauter des numéros de la série de ces limes, dans le but de gagner du temps. Dans les canaux difficiles il faut s'assurer d'abord que la lime No 1 passe facilement, ensuite le No 2 et non le No 3. Sauter un numéro c'est s'exposer à faire des épaulements et à compromettre son travail. On se rendra ainsi jusqu'au No 6 en utilisant, au besoin, l'acide sulfurique si la dentine est dense. S'il faut employer les limes du No 1 au No 6 cela ne veut pas dire que toutes doivent passer à travers le foramen de l'apex. Rappelons-nous que si le foramen n'est pas obstrué et qu'un No 1 ou tout au plus un No 2 y passe c'est suffisant. Les autres servent pour le canal.

Le canal ouvert, on fait le nettoyage au peroxyde et à l'eau distillée. L'assèchement à l'alcool n'est pas de rigueur. Par contre, il faut enlever toute obturation métallique ou non, qui serait en contact avec une dent voisine ou avec la gencive afin de réaliser la condition suivante; éviter toute perte de courant par déviation ou court-circuit. C'est une des grandes difficultés pour tous ceux qui font de l'ionisation. C'est probablement aussi la principale cause de nombreux insuccès. J'ai trouvé un jour, par hasard, un moyen bien simple d'éliminer cette difficulté. Il suffit de bien assécher à l'alcool le contour de la cavité, de l'enduire de cire adhésive qu'on recouvre ensuite d'une bonne couche de cire grasse. Une solution sur la cire ne se diffuse pas et reste en place. Seulement il ne suffit pas de déposer de la cire collante sur une paroi de la dent, il faut l'y faire adhérer fortement avec un instrument bien chaud. Sans quoi la solution pénètre sous la cire, fait court-circuit avec la gencive et le traitement équivaut à zéro.

On remplit le canal jusqu'à l'apex avec la solution d'iode, en utilisant, pour les dents supérieures, les pointes de Johnson & Johnson. Puis on introduit, sans effort la tige de platine, le pôle négatif. Il vaut mieux ne pas dépasser la moitié du canal. La tige ne doit pas non plus obturer complètement le canal et empêcher la circulation du liquide. Dans ce but il est préférable qu'elle soit plate. On doit éviter aussi qu'elle touche aux lèvres.

Le patient tient dans sa main la pièce métallique reliée au pôle positif. Pour un patient à la main trop sèche, on enveloppe la pièce métallique d'un coton humecté d'une solution saline. (Intervir les pôles vous mènerait à un échec certain). C'est alors seulement qu'on peut se permettre la mise en fonction de l'appareil, après avoir placé son rhéostat au neutre. Il faut tourner graduellement le rhéostat en observant toujours les yeux du patient. Aussitôt que ce dernier fronce les sourcils, il faut s'arrêter et attendre. En peu de temps, il se produira une analgésie locale qui permettra de pousser le courant un peu plus loin. On élèvera ainsi l'ampérage tant que la résistance du patient le permettra. Ceci ne veut pas dire qu'il soit permis d'abuser de son courage. Il semblerait, à venir jusqu'ici, que le milliampèremètre, une des pièces les plus dispendieuses de la machine, pourrait être éliminé. Hélas! non, il est indispensable; car pour connaître la durée du traitement, il importe de suivre l'intensité de notre courant. Or des patients tolèrent à peine un demi milliampère, alors que d'autres en supportent trois et même quatre.

C'est un fait curieux, mais certain. Il y a des patients dont l'organisme ne donne pas facilement passage au courant électrique tandis qu'avec d'autres l'aiguille du milliampèremètre monte tout au début de l'ouverture du rhéostat. Je n'ai pas encore cherché la raison scientifique de ce phénomène.

Dosage.

Je vous donne ici pour ce qu'elle vaut une formule américaine dont je ne me rappelle plus l'auteur.

En divisant 30 par le nombre de milliampères, on obtient le temps que devra durer le traitement.

milliampères

Ainsi $\frac{1}{2}$ milliampère demanderait 60 minutes.

Ainsi 1 milliampère demanderait 30 minutes.

Ainsi 3 milliampères demanderaient 10 minutes.

J'avoue que je n'oserais me prononcer sur la valeur de cette formule empirique. En effet l'expérience nous prouve que plus la lésion est étendue mieux le patient supporte un ampérage élevé. Alors la longueur du traitement serait en raison inverse de la gravité de l'infection pour être en raison directe de l'intensité du courant ? En outre, l'intensité n'est pas constante pendant toute la durée de l'application, car dans la plupart des cas, on ne peut guère dépasser un milliampère dans le premier 10 minutes pendant qu'on atteint facilement 3 dans le dernier. Alors, comment appliquer la formule?

En pratique, il est conseillé de ne jamais donner moins de 20 minutes de traitement, même avec 2 ou 3 milliampères et de le prolonger jusqu'à 30 et 35 minutes, si l'intensité du courant supporté est faible.

L'obturation du canal radiculaire n'offre pas moins d'importance que le traitement électrolytique lui-même. En effet, que sert de bien stériliser, si on néglige de remplir hermétiquement le canal jusqu'à l'apex, afin de prévenir la réinfection.

De toute nécessité, il importe d'obturer le canal jusqu'à l'apex. On commencera donc par le débarrasser de la solution d'iodure en lavant abondamment à l'alcool. On assèche ensuite avec les pointes de Johnson, tige chaude, air comprimé, etc. Il faut ensuite baigner le canal d'un vernis très léger fait de colophane et de chloroforme. Ce fluide très diffusible pénétrera facilement dans les plus petits foramens et facilitera ensuite l'introduction de la pâte obturatrice. Le remplissage du canal radiculaire peut se faire, je le concède, avec diverses substances, mais à condition qu'elles ne se contractent pas en durcissant, qu'elles ne soient pas poreuses ou pénétrables.

516 est, rue Sherbrooke,

Montréal.

Sommes-nous bien éclairés?

Causerie donnée à la Société Dentaire de Montréal

par MARCEL LAFLAMME, Ingénieur Civil

Monsieur le Président,

Messieurs,

La tâche visuelle des dentistes est plus grande que celle de toute autre profession. C'est probablement pour cette raison qu'en général ils se sont toujours intéressés au problème de l'éclairage. En 1939, cet intérêt connut une recrudescence dans différents endroits des Etats-Unis et du Canada. On fit appel à l'ILLUMINATING ENGINEERING SOCIETY pour étudier la question, et en 1943, la Société, après une étude approfondie, publiait le rapport suivant que nous allons parcourir ensemble, si vous le voulez bien.

D'abord, revoyons brièvement nos notions de vision et d'éclairage. De nombreuses enquêtes menées dans divers groupes sociaux (enquêtes menées par des compagnies d'assurance-groupe), démontrent, hors de tout doute, que le pourcentage de personnes ayant une vue défectueuse varie en fonction directe de l'intensité de la tâche visuelle accomplie par elles suivant leur métier ou leur profession. De plus, ce pourcentage

varie selon l'âge des individus examinés. Ainsi, dans le groupe des cultivateurs ou des journaliers travaillant en plein air, 21% de ceux dont les âges varient de 20 à 24 ans ont un défaut visuel quelconque. Ce pourcentage monte à 78% pour les individus du même groupe, mais âgés de 55 ans ou plus.

Dans un autre groupe, comprenant des machinistes et imprimeurs, (Tâche visuelle plus lourde) on trouve 29% entre 20 et 24 ans, et 78% au delà de 55 ans. Si l'on considère le cas des hommes d'affaires, comptables, dessinateurs et des hommes de professions libérales, on trouvera respectivement 36.4 et 83.4%. De toute évidence, il faut compter les dentistes dans cette dernière catégorie. Je dirai même qu'un test conduit parmi des dentistes seulement, nous donnerait des pourcentages encore plus élevés.

Durant sa carrière professionnelle, les yeux du dentiste, comme ceux de tout autre être humain, subissent certains changements qui affectent l'efficacité de sa vue: diminution du diamètre normal de la pupille, durcissement de la cornée de l'oeil, etc; le tout se traduisant par un plus grand pourcentage d'yeux défectueux.

On peut faire beaucoup pour aider l'oeil défectueux. Les verres ou lentilles aident à la mise au point sur des objets rapprochés ou éloignés.

Un éclairage adéquat, tout en entraînant une amélioration notable dans le confort de l'oeil *normal* en réduisant la fatigue et la tension nerveuse, aidera encore *plus* l'oeil *défectueux*. Ceci a encore été démontré par de nombreux tests. Plus la tâche de l'oeil est épuisante, plus il faut d'éclairage pour conserver la même facilité de vision.

Une étude de la technique dentaire soulève des points d'intérêt tout spécial. On demande aux yeux du dentiste de voir un détail très fin pendant des périodes de temps relativement longues. Regarder dans la bouche présente aussi une échelle d'éclats ou de "brillance" assez étendus, allant d'un coefficient de réflexion de 10% pour les tissus et les gencives à environ 60% pour l'émail des dents. Ce contraste de 6 à 1 peut, à lui seul, créer une tension nerveuse. Soit dit en passant, ce contraste de "brillance" dans la tâche visuelle ne devrait jamais dépasser les limites de 10 à 1. L'acuité visuelle, ou faculté de voir de fins détails, doit de toute nécessité être très élevée. L'opérateur doit être capable d'examiner minutieusement les murs de la cavité pour y découvrir toute trace de carie ou encore pour en apprécier les angles. A remarquer encore que tout le travail se fait en deçà de la longueur des bras ce qui force les yeux à s'accommoder et à converger. Une tension musculaire nerveuse se développe vite durant la concentration sur un objet rapproché.

L'extension de cette fatigue peut cependant être de beaucoup diminuée si on augmente la visibilité de l'objet. Cette visibilité dépend de trois facteurs élémentaires: l'objet, les yeux et la lumière. De ces trois facteurs, deux sont fixes: On ne peut pas grossir la dent à travailler, ni changer les yeux de l'opérateur. Le facteur lumière seul est variable.

Avant d'analyser ce dernier nous regarderons un peu autour de nous et nous verrons quelles sont les intensités lumineuses que nous rencontrons dans la nature. Mais, avant de parler d'intensité il serait sans doute intéressant de parler de l'unité de mesure la plus communément employée en éclairage: le pied-chandelle ou "footcandle". C'est par définition l'intensité que l'on trouve sur une surface dont tous les points sont à une distance d'un pied d'une source lumineuse étalon appelée chandelle. La valeur de cette source lumineuse étalon est sensiblement égale à celle d'une chandelle de paraffine ordinaire de $\frac{3}{4}$ " de diamètre. Approximativement, c'est donc l'intensité sur une surface placée à un pied d'une chandelle. Et maintenant, quelles intensités rencontrons-nous dans la nature, cette nature qui, de par la volonté du Créateur, doit servir d'environnement à la personne humaine. A l'heure du midi, vers la fin de juin, l'intensité à ciel ouvert est d'environ 10,000 f.c. A l'ombre d'un arbre, nous trouverons plus de 1,000 f.c. Sur la véranda plus de 500, et je vous demande si jamais vous avez rencontré un homme se plaignant qu'il y a trop de lumière à l'ombre d'un arbre

lorsqu'il s'agit de lire son livre favori. Pénétrons à l'intérieur de nos maisons. Tout près de la fenêtre, s'il y a une certaine exposition au ciel on trouvera 100, peut-être 200 f.c.; à cinq pieds de la fenêtre nous serons rendus à 15 et 25 f.c.; et dans la chaise du coin, dans le fond de la pièce, chanceux est celui qui trouvera 5 f.c. en plein midi. La nature nous dit qu'il faut 1000 f.c., et la civilisation nous en impose 5! Certes nous n'avons pas encore les moyens de produire à l'intérieur les intensités de l'extérieur, mais je veux attirer l'attention sur le fait que si nous prenons soin de la qualité de l'éclairage que nous donnons nous ne sommes limités que par des questions d'économie et non par des questions d'intensité.

J'ai bien dit: "si nous prenons soin de la qualité". Ceci nous amène à parler de contrastes et de reflets. Nous savons tous que pour discerner un objet facilement il faut un contraste d'intensité lumineuse, ou un contraste de couleur. Le ministère de la voirie emploiera de la peinture blanche pour marquer le centre d'un pavage noir, tandis que la couturière se servira de fil noir pour coudre des étoffes noires ou de fil blanc pour du tissu blanc. Un des principes fondamentaux de la science de la vision nous dit aussi que la "brillance" d'un objet augmentant, la sensibilité de l'oeil augmentera aussi et les contrastes les plus minimes se discerneront plus facilement.

Les reflets provenant de sources lumineuses telles qu'appareils d'éclairage ou fenêtres, dans le champ de vision contribuent pour beaucoup au malaise visuel de l'observateur et diminuent d'autant la facilité de percevoir des détails. Il y a deux sortes de reflets: Directs et Réfléchis. Les reflets directs proviennent de rayons lumineux voyageant directement de la source lumineuse vers l'oeil, tels les rayons d'un phare d'automobile que l'on rencontre la nuit. Les rayons réfléchis sont ceux qui pénètrent dans l'oeil après avoir frappé une surface polie quelconque, telle que le papier glacé de la page d'un livre. Vous savez tous ce que signifie ces reflets pour la vue. On devra donc éviter l'emploi de surfaces polies. Des finis mats éliminent les reflets et semblent toujours éclairés plus uniformément. Rappelons nous aussi que quoiqu'en disent certaines ménagères, les finis mats n'amassent pas la poussière plus vite que les finis glacés. Ceci s'applique aux murs, plafonds, boiseries, ainsi qu'aux meubles et à la machinerie.

Pour que la "brillance" soit aussi uniforme que possible, les plafonds devraient avoir un coefficient de réflexion d'au moins 75%, les murs 60% et les planchers de 35%. Le plafond sera blanc, les murs d'une couleur pastel quelconque et l'on devra éviter l'emploi de tapis ou carpettes trop foncés.

Et pour revenir à nos moutons, voyons les intensités minimums que l'on devrait rencontrer chez un dentiste. A tout seigneur tout honneur—Commençons par la Salle d'Opération. Il est impossible de produire une intensité uniforme dans toute la pièce, suffisamment élevée pour permettre un travail facile, car il faut de 150 à 1000 footcandles à l'intérieur de la cavité buccale. Donc, impossible de se dispenser d'employer un éclairage local supplémentaire. Mais tout de même il faut une intensité générale et uniforme d'au moins 50 f.c. Pour s'assurer une distribution raisonnable il faudra être méticuleux dans le choix du luminaire. D'habitude, un seul luminaire suffira et sera placé au-dessus de la chaise. Si ce luminaire emploie la lampe à incandescence, il devra être du type indirect ou semi-indirect. S'il emploie des lampes fluorescentes, il devra donner une distribution aussi uniforme que possible. Dans ce dernier cas cependant, les lampes devront être cachées à la vue directe dans la zone partant de l'horizontale à un angle de 45° sous cette horizontale, soit au moyen de verre dépoli ou au moyen de louveres. Si la salle mesure plus de 100 pi.car. il serait recommandable d'employer plusieurs luminaires.

Ceux qui ont étudié le problème d'éclairage qui nous intéresse ont fait de sérieux efforts pour éliminer l'emploi d'une source supplémentaire dans l'éclairage de la bouche. Apparemment cette élimination n'est pas économique. Cette source supplémentaire doit être évidemment dirigée vers la bouche et placée à l'arrière, soit à la droite, soit à la gauche de la tête de l'opérateur. L'emploi d'un miroir ou d'une

lumière frontale n'est pas à recommander. Le miroir ou réflecteur demande une source de lumière très intense placée en avant de l'opérateur et par conséquent dans son champ visuel. Nous savons maintenant quoi penser des reflets directs. La lampe frontale amène la possibilité de chocs électriques. Dans les deux cas les mouvements de l'opérateur sont gênés et j'y vois une grande possibilité de malaises et de raideurs dans le cou après une journée de travail.

La source d'éclairage supplémentaire doit aussi offrir une grande flexibilité de position. Quoique les rayons lumineux doivent être très concentrés, il faut aussi que cette source soit suffisamment grande pour que la lumière vienne de plusieurs directions à la fois et que la main ou l'instrument de l'opérateur ne produise pas d'ombrages nuisibles.

Dans bien des cas il faudra aussi un éclairage supplémentaire au-dessus du cabinet.

Passons maintenant dans la laboratoire. On recommande ici une intensité générale de 25 f.c. et une intensité de 100 f.c. au-dessus de la table de travail, avec la possibilité de 200 f.c. pour un travail très délicat. La dimension de cette pièce étant très variable il est assez difficile de recommander une position quelconque pour le ou les luminaires employés. On emploiera surtout des unités directes, type industriel. Le patient ne pénétrant pas ici, l'apparence des unités ne devra pas être nécessairement aussi soignée. Le nombre et le Wattage des luminaires requis seront calculés d'après la méthode conventionnelle, mais on prendra grand soin, et ceci est très important, que les luminaires soient localisés de telle façon que les ombrages et les reflets nuisibles soient éliminés. L'éclairage supplémentaire pourra être fourni par un projecteur ou une lampe projecteur montée au plafond et au-dessus de la table de travail.

Si les armoires sont placées au-dessus de la table de travail, l'éclairage supplémentaire pourra consister en lampes fluorescentes placées sous ces armoires et bien cachées à la vue directe.

Et maintenant, nous arrivons à un détail de l'éclairage du laboratoire, qui est des plus importants: C'est de savoir quelle source lumineuse employer lorsque l'on veut choisir des dents artificielles de même couleur. Disons d'abord que quelle que soit la source lumineuse employée, elle ne donnera jamais satisfaction si elle est employée seule. Il faut ici, pour être sûr des résultats deux sources lumineuses de couleurs différentes. Si, par exemple, le laboratoire est éclairé à l'aide de lampes à incandescence on emploiera une lampe fluorescente pour faire l'analyse des couleurs, ou vice-versa, on se servira d'un projecteur à lampe à incandescence si l'éclairage du laboratoire est fluorescent. En résumé, l'emploi d'une seule source lumineuse ou d'un seul genre d'éclairage, quelque bon qu'il soit, n'est pas suffisant pour garantir l'exactitude du choix des couleurs. Mais, si deux échantillons sont identiques sous deux sources lumineuses différentes, ils le seront toujours, quelles que soient les conditions sous lesquelles ces échantillons seront examinés.

La Salle aux Rayons-X n'offre aucun problème particulier au point de vue éclairage. On verra tout au plus au confort du patient. Le panneau lumineux dont on se sert pour examiner les négatifs sera placé en un endroit où l'examen pourra être fait sans fatigue, tel que le dessus d'une table ou de l'armoire. Dans certains cas un autre panneau lumineux pourra avantageusement être placé près de la chaise dans la salle d'opération. De cette façon l'opérateur pourra référer au négatif, même durant le travail dans la bouche du patient.

La Salle d'attente sera traitée comme un living-room, mais de grâce un living-room bien éclairé! Pourvoir d'un bon éclairage quatre à cinq endroits où le client puisse lire facilement les journaux et "magazines" d'avant-guerre que l'on retrouve infailliblement chez tout dentiste.

Questions et Réponses

Question.—J'ai revu deux jeunes gens, ayant respectivement seize et vingt ans, et auxquels j'avais extrait à l'âge de huit ans, les quatre molaires de six ans. Seules deux de celles-ci étaient fort cariées.

Le résultat me semble parfait, au point de vue articulation.

Or, je crois savoir, qu'il y a des avis fort partagés au sujet de cette intervention (extraction préventive des quatre dents de six ans, même lorsque celles-ci ne sont que légèrement atteintes par la carie). Ceci me semble plutôt un argument en faveur de l'intervention.

Qui pourrait me faire savoir où en est actuellement la question?

D. à B.

REPONSE N° 1.—

L'extraction systématique des quatre premières molaires est une faute. L'orthodontie n'en est plus au temps où sa seule pré-occupation était l'alignement des dents de devant.

Même, dans les cas où cette extraction pourrait donner de la place devant—et c'est certainement la manœuvre la plus mauvaise que l'on puisse conseiller dans ce but, parce que l'extraction des premières prémolaires donnerait ce résultat avec beaucoup plus de rapidité et de certitude—même dans ce cas, l'extraction inconsidérée fait du tort au patient.

En effet:

1° Elle lui enlève la surface de mastication la plus utile et la plus large, celle qui se trouve le plus directement dans l'axe des muscles masticateurs:

2° Elle freine la croissance de la mâchoire et de la face, parce qu'elle freine le développement de la tubérosité et l'élargissement normal de la face; elle provoque, par le fait même, une atrophie maxillaire et un raccourcissement sagittal de la mâchoire influençant la croissance du sinus et des cavités accessoires des fosses nasales;

3° La deuxième molaire, en avançant dans la brèche formée, peut tomber en avant et, en tout cas, tourne autour de sa racine palatine pour la mâchoire supérieure;

4° Le résultat correcteur est loin d'être certain, au moins quand la correction n'est pas faite précocement;

5° Si elle est faite précocement, l'influence inhibitrice sur le développement osseux est d'autant plus accentuée; d'autre part, l'enlèvement de la molaire de six ans, qui, à son éruption, doit présider au changement de l'occlusion bout à bout en occlusion distomésiale et la sauvegarder jusqu'à ce que les autres dents définitives sont venues la fixer, soumet cette occlusion à des dangers terribles. L'extraction est très souvent la cause prépondérante de rétroglissements mandibulaires. Pour peu qu'il y ait une légère supériorité mandibulaire, elle peut provoquer du proglissement. En presque tous les cas, elle donne naissance à une occlusion basse.

Conclusion —La première molaire est la pierre angulaire de tout le massif dento-maxillo-facial à partir de six ans jusque à douze ans. Dans tous les phénomènes de la croissance de la face, de l'établissement de l'occlusion, de la fondation des arcades, elle constitue le point central. Pour pouvoir enlever ces dents, il faut d'abord un diagnostic sérieux, un contrôle permanent, et le plus souvent un traitement orthodontique préventif.

Tous les auteurs modernes sont d'accord sur ce point.

(Réponse numéro 2 sera donnée au prochain mois.)

L. D.



By Courtesy of "The Beaver"

Hauling a Cod-Trap off Blanc Sablon, on the Strait of Belle Isle

Character in its broadest interpretation is made up of many distinct qualities, but so far as the surgeon is concerned, it may be summarized in one word—honesty. Character embraces ethics, conscientious judgment, industry and all other elements which make up the background for a successful career as a surgeon. Honesty must be evident in action, in example, in all utterances and writings, and in all other contacts with patients, confrères and those whose interests are closely allied to the practice of surgery. Honesty demands that the welfare of the patient be foremost at all times. Honesty, coupled with scientific knowledge, surgical judgment and technical skill, assures a proper balance of diagnostic and operative ability.—Bull. Am. Coll. Surgeons, December, 1943, per Jour. of Oral Surgery.



A. POYNTZ, L.D.S., D.D.S.,
Victoria, British Columbia.

President of the B. C. Dental Association.

Served Overseas with the C. A. D. C. in the last war.

Past President of the Victoria Dental Society.

Past National President, Association of Kinsmen Clubs of Canada.

Past President, B. C. Softball Association.

President, Vancouver Island Tennis Association.

President, Vancouver Island Badminton Association.

Diagnosis of Mandibular Fractures

by CAPT. J. J. SCHACHTER, No. 5 Coy., Canadian Dental Corps, Canadian Army Overseas

THE primary object of treatment in all cases of fractures of the mandible is "the restoration of the function that has been lost". Restoration to the "normal" is desired. Restoration of the "cosmetic condition" is an aesthetic value and is considered secondary. The fear that patients have of disfigurement and the effect it will have on their future life in the competition of gaining a living must be taken into consideration in their restoration to normal. Loss of appearance may be justified by complete restoration of function, whereas restoration of appearance without restoration of function is unforgiveable.

When a patient presents himself with a possible mandibular fracture, it is important to grasp the signs and symptoms quickly and clearly so that the clinical examination will bring out a clear concise picture of the injury. Verification by means of radiographs is important but must never be used as a substitute for clinical diagnosis. The radiographic picture must only be used as an aid. Handling of the fracture is painful and harmful. Eliciting crepitus should be avoided at all times.

The aetiology of fractures may be summarized;

A. Predisposing Causes.

(i) General bone diseases. Softening or causing the bone to become brittle, i.e., rickets, osteomalacia, fragilitas ossium.

(ii) Local bone diseases. Pathological fractures, i.e., tumours of the bone. carcinoma, cysts, osteomyelitis.

B. Exciting Causes.

(i) Trauma or violence.

Direct, at point of violence.

Indirect, some distance from point of violence.

(ii) Muscular contraction.

It is doubtful if this exists.

The mandible although the strongest bone, suffers more from fractures than any other bone in the face. The mandible consists of a body, which is curved in a horse-shoe shape, and two quadrilateral shaped rami, which terminate in two processes, the coronoid and the condylar process. The external surface of the body is marked in the upper part of the median line by a faint ridge indicating the symphysis or junction of the two bodies in early life. (Fig. 1). The lateral surface is flat. The mental foramen is usually found between the bicuspid teeth about midway between the upper and lower borders. The oblique ridge runs from the foramen to the upper border of the ramus. On the medial surface (Fig. 2), in the region of the symphysis the inferior and superior genial tubercles are found. The mylohyoid ridge runs backward and upward from these tubercles to a point behind the last molar tooth. The lateral surface of the ramus is flat. The medial surface has the mandibular foramen in the centre. The

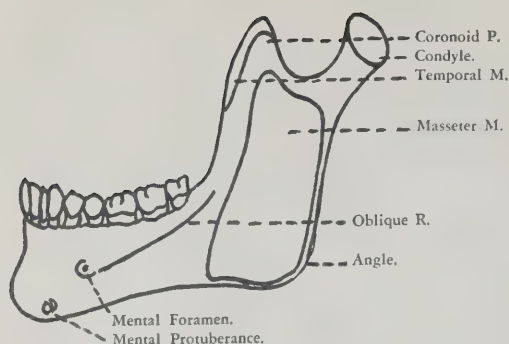


Fig. 1

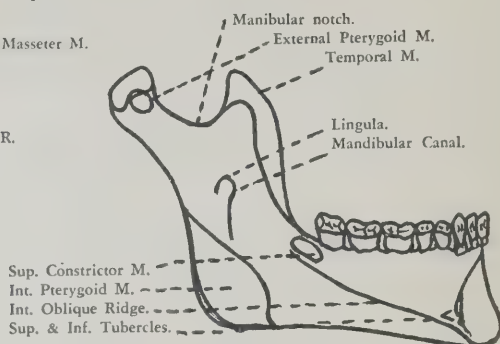


Fig. 2

mandibular lingula overlaps this foramen affording protection to the mandibular vessels and nerves and for the insertion of the spheno-mandibular ligament. The lower border of the ramus is continuous with the body of the mandible. The coronoid process is a thin, flat, smooth shaped projection. The condylar process is thicker than the coronoid and is divided into a head and neck. The head articulates with the glenoid fossa. The two processes are separated by the mandibular notch. On the whole the lower border is much heavier and thicker than the upper.

The anatomical structure is such that there are certain recognized weaknesses which tend to fracture. These are listed as:

1. The neck of the condyle.
2. Unerrupted third molars.
3. Edentulous areas.
4. Tooth sockets.
5. The neck of the coronoid process.

However, the sites of fracture that occur most frequently are in order of frequency; the angle, the mental foramen area, the symphysis, the head of the condyle, the neck of the condyle, the coronoid process.

The variety of fractures that occur in the mandible are not as great as those occurring in other bones of the body. The four commonest types are:

1. Simple fracture in which there is no communication with the exterior or interior parts. There is little danger of infection in this type.

2. Compound fracture in which there is communication with the exterior or interior. There is great danger of infection in this type.

3. Comminuted fracture in which the bone is shattered into a great number of pieces. This type is usually compounded.

4. Multiple fractures in which the bone is fractured in more than one place. It may be simple at one site and compounded at the other or any combination. It is seldom that an impacted or depressed type of fracture occurs in the mandible.

The diagnostic signs and symptoms of a fracture of the mandible are easier to find than those for a maxilla. The patient will usually assist in the clinical examination, opening and closing the mouth, giving information as to the direction of violence, where the tenderness is greatest and many other vital bits of information. These signs and symptoms fall under the following headings, many of which are self explanatory.

1. Pain. Those who have sustained a fracture seldom complain of pain except on movement of the fragments.

Patients with fractures near the origin of the superior constrictor muscle may have excruciating pain on swallowing.

2. Tenderness—at site of fracture when palpating.

3. Swelling—usually at site of fracture.

4. Disability—disturbance of function varies according to the site and extent of fracture.

5. Discolouration—haematoma of skin and mucous membrane.

6. Displacement—loss of continuity; deformity of bone.

7. Mobility—at site of fracture; manipulation is bad for prognosis; it is never necessary to elicit crepitation.

8. Salivation—absence of normal movement results in a saliva dribble.

9. Laceration—all lacerations of the skin and mucous membrane should be carefully inspected to determine the type of fracture.

10. Foetor-Oris—stagnation of food due to lack of movement; the onset is rapid and characteristic.

11. Anaesthesia — temporary anaesthesia of the lower lip is pathognomonic of fracture of the body of the mandible.

12. Roentgen ray as a confirmation of the clinical examination only.

The action of the muscles of mastication in the displacement of a fragment plays an important part in the correct diagnosis of the fracture. Force and direction of the violence will tend to tell us what kind of a fracture we will find (direct or indirect), but displacement seldom occurs due to the trauma. The resultant pull of these muscles tends to displace the fragments. There are three sets of muscles: the elevators, the masseter, the temporal and the internal pterygoid muscles; the depressors, the digastric, the geniohyoid and the mylohyoid muscles; the rotator; the external pterygoid muscle.

The masseter muscle originates in two heads, from the zygomatic portion of the maxilla, the lower border of the zygomatic arch and the whole of the medial surface of the zygomatic pro-

cess. The superficial fibres pass downward and forward to the lateral surface of the coronoid and upper half of the ramus. The action of this muscle is to pull the mandible toward and against the maxilla. It also has a slight forward action.

The temporal muscle is fan shaped, situated at the side of the head. It arises from the whole of the temporal fossa and the temporal fascia. The fibres converge as they approach the zygomatic arch, to form a tendinous attachment which is inserted into the medial surface, the anterior border and apex of the coronoid process and the anterior border of the ramus, nearly as far forward as the last molar tooth. The attachment along the anterior border of the ramus is very strong. The action of this muscle is to elevate the mandible. The posterior fibres however will draw the mandible backward while the anterior fibres will draw it forward to a small extent.

The internal pterygoid muscle arises from the medial surface of the lateral pterygoid lamina and from the grooved surface of the pyramidal surface of the palatine bone and a thin origin from the tuberosity of the maxilla. The fibres pass downward, laterally and backward to be inserted into the lower back part of the medial surface of the ramus and angle as far back and as high as the mandibular foramen. The action of this muscle is to pull the mandible upward, inward and forward. When the two pterygoids on one side are in action the corresponding side of the mandible is drawn forward while the opposite side slides somewhat backwards.

The digastric muscle, of which we are only concerned with the anterior belly, originates from the digastric fossa, a depression on the inner surface of the mandible close to the mid line. The fibres pass downward and backward and are attached to the side of the body and the greater cornu of the hyoid bone by a fibrous loop. When the anterior belly is fixed it depresses the mandible.

The geniohyoid is a narrow muscle originating from the inferior genial tubercle. It runs downward and slightly backward to be inserted into the anterior surface of the hyoid bone. When the muscle acts from the hyoid bone it depresses the mandible.

The mylohyoid muscle with its opposite member forms the floor of the mouth. It arises from the whole of the mylohyoid line. The posterior fibres pass medially and slightly downward and forward to be inserted into the front of the hyoid bone. The middle and anterior fibres are inserted into a median raphe which stretches from the symphysis to the hyoid bone. The action of this muscle is to depress the mandible and raise the floor of the mouth.

The external pterygoid, the rotator or forward muscle has several actions. It originates in two heads from the infratemporal surface and crest of the great wing of the sphenoid bone and from the lateral surface of the pterygoid lamina. The fibres pass downward and backward to be inserted into the pterygoid fossa, the articular capsule and disc of the mandibular articulation. Its action is to assist in opening the mouth by pulling the condyle forward, i.e. pulling the articular disc and capsule forward. It causes the mandible to protrude when both muscles are in play. A rotation process results when only one muscle is used.

The superior constrictor muscle cannot be classified as a muscle of mastication but its action may be of assistance in diagnosis. The muscle originates from the posterior end of the mylohyoid line. (Fig. 2.) The fibres curve backward and are inserted into the median raphe of the pharynx. In deglutition the action of the upper fibres of this muscle is to contract causing the posterior pharyngeal wall to closely approximate the soft palate. As the bolus of food moves along the successive contraction of this muscle urges it onward, pressure being exerted medially on the origin every time this contraction occurs. When a fracture

occurs near the origin of this muscle the patient has excruciating pain every time deglutition occurs, usually resulting in drooling of the saliva.

Displacement of the mandible takes place in most cases when a fracture occurs. Force and direction of the blow seldom cause displacement. Impacted or depressed fractures are rare. The presence of opposing teeth, the amount of soft tissue around the fracture line, the "line of fracture", the resultant force of the muscular action, the amount of comminution are all governing factors in the amount of displacement.

The displacement caused by the muscles of mastication is very significant as they exert a tremendous pressure. Their origins and insertions and their actions are such that the various fragments of a fracture will displace in the direction of the resultant force of these muscles. The internal pterygoid is a stronger muscle than the masseter, hence the fragment having these muscles attached will displace medially. The resultant force of all the elevator and depressor muscles is inward and will invariably cause an inward displacement when the mandible has a fracture at the symphysis. This muscular displacement however is governed by several factors which react favourably or otherwise to the displacement.

The presence of teeth in the maxilla and mandible is one of these factors. The presence of opposing teeth will prevent any undue upward displacement. If the posterior fragment of a fracture has no opposing teeth, the elevators will cause it to displace upward. (Fig. 3.) If the fragment has posterior teeth, they will gag on the upper posteriors and prevent displacement. (Fig. 4.)

The "line of fracture" is the second of these factors referred to in the former paragraph. The "line of fracture" is the direction which the fracture takes in the bone. When a fracture of the mandible occurs it usually is divided into an anterior and posterior

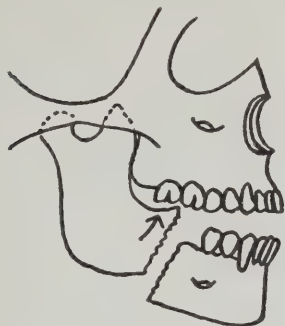


Fig. 3

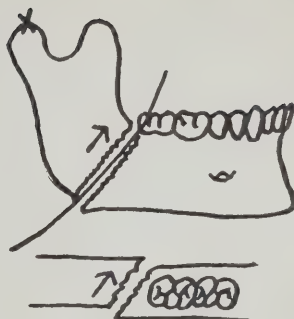


Fig. 5

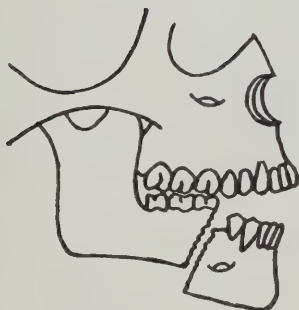


Fig. 4

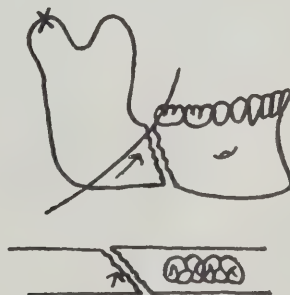


Fig. 6

fragment. The posterior fragment will displace or will move in two directions if free of interference from the anterior fragment, namely, upward and inward. These two movements are in arcs of circles with a common centre, the glenoid fossa. If the fracture line occurs parallel to these arcs, the fragments tend to displace as the anterior fragment will exert no restraint. (Fig. 5.) If the fracture line crosses these arcs of circles then the anterior fragment will prevent further displacement. (Fig. 6.) The line of fracture which favours displacement is termed as an "unfavourable line of fracture", while the line of fracture which does not favour displacement is termed "a favourable line of fracture". When viewing the fracture from the side it is spoken of as "horizontal" and from above as "vertical" lines of fracture. Reasoning similarly it is quickly seen

when an anterior fracture has a favourable or unfavourable line of fracture.

TYPICAL DISPLACEMENTS OF COMMON FRACTURES

Fracture of the condylar process is usually due to a frontal blow or fall, i.e. an indirect fracture. The resultant displacement of the head of the condyle varies. Diagnosis of its position is made by radiographs. The displacement of the body of the mandible is characteristic and is in itself diagnostic. There is with the loss of the condylar head a shortening of the distance from the inferior border to the glenoid fossa, causing the mandible to be elevated (action of the elevators) with subsequent gagging on the posterior teeth and an open bite in the anterior of the mouth. (Fig. 7.) The

loss of the external pterygoid muscle causes the mandible to be displaced toward the injured side. The depressors help somewhat in this rotation. When both condyles are fractured there will be no lateral displacement or rotation, all pull from the external pterygoid muscles having been lost. The diagnostic features are gagging on the molars on both sides with a noticeable open bite. (Fig. 8.)

Fractures of the coronoid process cause no displacement of the mandible and must be diagnosed by radiographs.

Fractures of the ramus do not exhibit a great deal of displacement owing to the investiture of the various muscles. The anterior insertion of the temporal muscle is very strong and

will prevent displacement. In comminution and loss of substance a shortening will occur with displacement similar to that of a condylar fracture. Fractures of this type are rare.

Fractures at the angle and in the body posterior to the last tooth exhibit similar displacements. The "line of fracture" plays an important part in displacements of fragments in these areas. The degree of displacement will also depend on the number of teeth in the posterior maxilla, and on comminution of the mandible. (Fig. 9.) (Fig. 10) shows that with a favourable line of fracture the anterior fragment will not allow the posterior fragment to displace. Fig. 11 shows an unfavourable line of fracture with the lack of support from the anterior fragment and subsequent ease of displacement. When the horizontal line of fracture is favourable but the vertical unfavour-

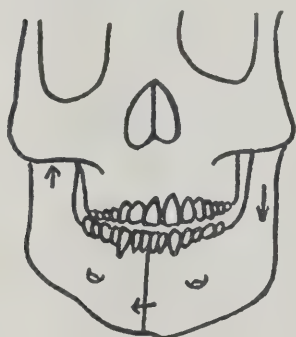


Fig. 7

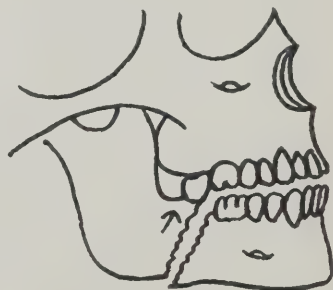


Fig. 9

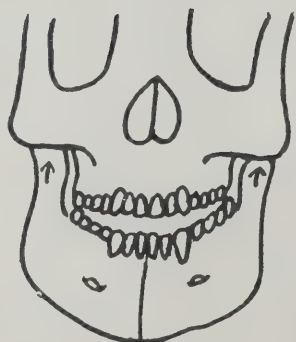


Fig. 8

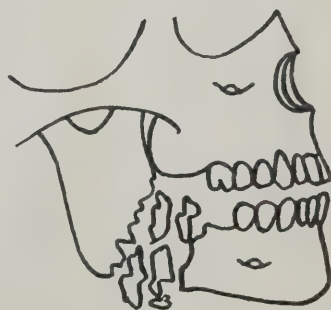


Fig. 9

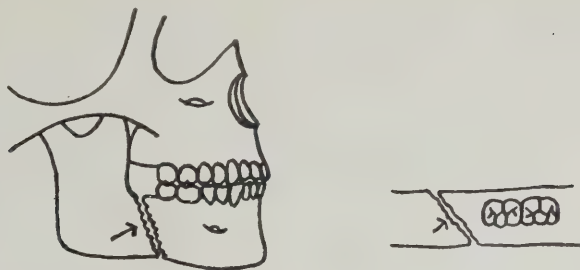


Fig. 10

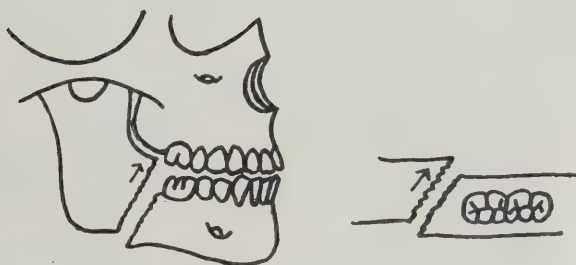


Fig. 11

able the tendency is for an inward displacement, the resultant force of the elevator muscles. In a comminuted fracture the bone is shattered so that the anterior fragment can offer no support to the posterior. The anterior fragment in this type of fracture is usually rotated and displaced toward the injured side, although it is never very marked except in comminuted fractures. In a bilateral fracture of the angle area the anterior fragment will be displaced downward with loss of control of the tongue and soft tissues. The posterior fragments having only elevators and with no restraint from the anterior fragment will displace upward and gag on the upper posterior teeth and will also be displaced inward.

Fractures through the body of the mandible may involve the teeth and their sockets. The fracture may go around the tooth socket or go through it. If there are teeth present in both

jaws the displacement is slight. (Fig. 12.) The posterior fragment is pulled towards the upper teeth but may assume a slight inward displacement. The anterior fragment will only be displaced slightly if the "line of fracture" is favourable. If the "line of fracture" is unfavourable, then the fragment will be displaced downward, backward and rotated towards the injured side of the bone. (Fig. 13.) In a bilateral fracture involving the body, with or without comminution, the displacement is similar to that involving the angle area.

Line fractures occurring in the symphysis exhibit little displacement, each fragment having an equal number of muscular attachments. (Fig. 14.)

A fracture in the mental region will have the smaller fragment held against the upper teeth. The larger fragment will be displaced downward, inward and backward with loss of occlusion of the anterior teeth. (Fig.

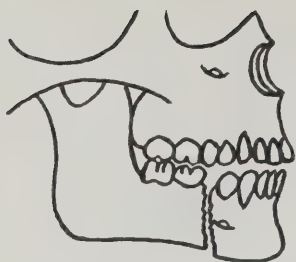


Fig. 12

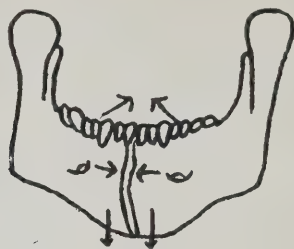


Fig. 14

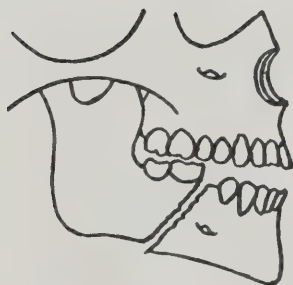


Fig. 13

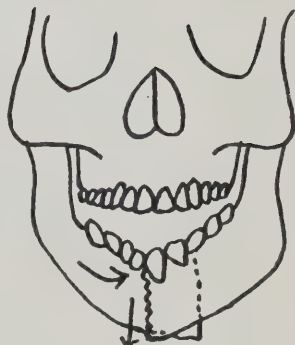


Fig. 15

15.) The smaller fragment will usually be found overlapping the larger. In a comminuted fracture of the symphysis, control of the tongue is lost. The displacement of the two halves will be inward with a general narrowing of the dental arch. These fragments tend to tip inward with a greater displacement at the occlusal.

Bilateral fractures exhibit the same combination of displacements as any lateral fractures. A condylar fracture on one side and a body fracture on the other side exhibit the same displacement as has already been described. The larger fragment already displaced toward the injured side (condylar) will exhibit a greater downward and backward displacement than would normally be recorded. The open bite effect will be greater. Similarly the posterior fragments will be displaced to a greater degree. Double fractures on the same side are rare. If found the

middle fragment will be displaced inward due to the trauma and the mylohyoid muscle pull. The other fragments will act as posterior and anterior fragments.

Fractures of the edentulous mandible do not always displace, although it is subject to the same fractures and displacements as the normal mandible. The presence of a thick muco-periosteum and the lack of tone of the muscles of mastication will prevent undue displacement. Fractures may go undetected unless the displacement is great or the occlusion of the original dentures is changed enough to cause discomfort to the patient. Bilateral fractures at the angle or body usually show great displacement. The posterior fragments aggravate the downward displacement of the anterior fragment by their upward displacement.

Restoration to the "normal" of man-

mandibular fractures begins when the clinical examination and diagnosis is made. From the diagnosis the plan of treatment is laid out. An incorrect diagnosis may lead to incorrect and harmful treatment, resulting in a long arduous struggle to restore the mandible to normal. Early treatment in all cases will prevent a long period of hospitalization and can only be undertaken if the diagnosis is made at an early period.

BIBLIOGRAPHY

- Boyle, H. H. — *Theory and Treatment of Fractures of the Jaws in Peace and War.*
- Fry, Shepherd, McLeod, and Parfitt — *The Dental Treatment of Maxillo Facial Injuries.*
- Gray—*Human Anatomy.*
- Ivy and Curtis—*Fractures of the Jaws.*
- National Research Council—*Manual of Standard Practice of Plastic and Maxillo Facial Surgery.*

Patient Co-operation^{*}

by J. G. ELSEY, D.D.S., Winnipeg, Manitoba

WITH the appreciation in mind that we, as dentists, have each an individuality and personality to commence with, to which is added the results of our training, no set rules can be laid down as to what method would result in each obtaining a maximum patient co-operation. Together with this thought must be linked the realization that the patients present themselves with as many individualities as there are patients. So one is able only to generalize on a few of the procedures which, in one case or another, might aid to development of fuller concurrence. Fortunately, many times complete co-operation is in evidence without any particular endeavour on our part.

At the present time some of the considerations herein may seem unnecessary. However, they should be taken as applicable in normal times and not just now when the slogan seems to be "Get on with the job." Not that the pressure of war-time practice exonerates our responsibility to the patients whom we serve, but rather that just at present our services are in

abnormal demand. So for a time we must conserve our energies to take care of a larger clientele than many of us may feel capable of serving.

The regular patients in our practice have possibly long since become the victims of our folly or otherwise, and it would, no doubt, be very difficult to change the relationship we have established with them. So any suggestions must, to a great extent, refer to new patients.

It is generally agreed that the first appointment is most important in establishing a desirable relationship between operator and patient. As one considers the possibilities of this visit, it becomes a real challenge to the dentist, for the patient has presented himself in a receptive mood, and the impression he obtains, must be one to warrant confidence and co-operation.

TYPES OF PATIENTS

There are many types of patient recognizable immediately by the dentist and each must be handled according to his type. It is sufficient to classify a few of the more difficult ones.

^{*}Presented before the Winnipeg Dental Society, April 25, 1944.

There is the suspicious patient, who may exhibit skepticism, doubt or fear, and for these it is necessary to give a complete explanation; and time spent in this will be amply repaid when their suspicion has been allayed. Then there is the too agreeable—(yes, yes) patient, who scarcely appears capable of accepting the responsibility of agreement. A very definite financial arrangement is desirable here. And there is the resentful and angry patient—the resentment or anger being directed at either you or somebody else. In this case it is best to agree and not add fire to a smouldering flame, until his ire has abated. A sympathetic and understanding listener proves a withering defence against this type and he will feel worse than anyone else when he has finished. Courtesy and sincere consideration are required with all types. Interest and sympathies with the patients' difficulties are always appreciated. At all times care must be taken not to disparage the services of another dentist. Such a criticism is not appreciated by the patient and may cause him to just wonder what twist in the dentist's mind prompted the criticism. One of our members told the writer a short time ago of a patient who visited his office to have a filling placed. He suggested a silver filling and was somewhat surprised when she said "Oh Doctor, I had all my silver fillings removed and replaced with amalgams." He placed a very pleasing amalgam for her. He was amused, she was satisfied, and the writer trusts he got a good fee.

APPROACH TO PATIENT

A friendly approach must be made; the patient set at ease, and as much information as possible should be obtained, without apparent questioning. By the time the patient has finished his story, his general attitude towards the work in hand should be appreciated by the operator, and the response be ready. In most cases neglect is expressed and this opens a field of patient education which can be carried on,

whenever the opportunity arises, to the completion of the case.

We must inform before we perform. We must appreciate that our responsibility lies not only to the patient, but also to our profession, our practice and ourselves.

As the examination is being carried on, if there is any question in the mind of the operator as to the procedure, no endeavour should be made to make a decision at this time, for until this is clearly in mind there is little hope of conveying to the patient the confidence that breeds co-operation. It is better to proceed with the examination, correctly impressing the patient with the necessity of obtaining a complete survey, before arriving at conclusions. If x-rays are desirable, and the patient shows any objections, a few well chosen negatives (kept for the purpose) disclosing unexpected conditions will quickly secure his agreement. Actual negatives, like models of actual cases, are perhaps more impressive than pictures. Study models can be obtained and a new appointment arranged.

If the operator is prepared to go ahead with a discussion of the case, a diagnosis can be made and the patient advised of the necessary procedure. At this time it is possibly advisable to take the patient into full confidence regarding his personal dental requirements. This may include the use of the hand mirror. During the conversation one should impress upon him the fact that the operator is quite certain of the patient's requirements and how the most satisfactory results may be obtained. It is not necessary to discuss the technique to be followed, as the patient is more interested in the possible results, but to avoid any future difficulties it is well that the patient should understand clearly the extent of the work to be carried out. If any objections are taken to the procedure, as suggested, it is the proper time to realize that you have not made clear to the patient the necessities of his case. Be patient. Point out in his language

just how you have arrived at your conclusions. Be very definite as to his needs. Most patients appreciate this little discussion, acceding to the suggestions. If co-operation is not in evidence it is well to suggest delay. The patient has learned a lot about his requirements. He has taken a perfectly good appointment—you have given him a complete diagnosis. You have not given him an estimate, but can in a very firm, but pleasant manner, suggest that if he does not wish to proceed, perhaps he would rather just pay for the x-rays and diagnosis and think it over for a while. It is his move now. If he is the type of patient we all desire, he takes no offence; if he is not, it is well to find it out before more time has been lost.

DENTAL FEES

In many cases the first question of the patient is "What will it cost to fix my teeth?" Here it is necessary to explain the necessity of a thorough examination and diagnosis. If a snap estimate is given before the case is fully gone into, the fee alone would have been the basis upon which he could have decided. But if a little time is given in pointing out his requirements, during a complete diagnosis, his query now is more likely to be "What will *all* this cost?" with emphasis on the "all". It is a matter of his appreciating what services must be rendered; then he, no doubt, will agree to a satisfactory remuneration.

Show an interest in his viewpoint, express the limit in the service that can be rendered, indicating that responsibility of success rests on the patient as well as the dentist, and point out the impossibility of a guarantee accompanying your endeavour.

At times, a patient may agree to the services and fee, but express inability to pay for the work when completed. In such cases, it is better to have him suggest what payments he is prepared to make. It is then a matter of individual intuition, coupled with any available information, that must guide the

dentist. If the account is to be of a considerable size, a suggestion of a deposit, with the balance arranged, will usually enable one to conclude as to the probabilities of a promise being kept. If no financial preparation has been made previous to the first visit, the patient not having succeeded in accumulating anything towards the work, it would appear very difficult for him to do so in the future. On the other hand, if some preparation has been made for financing, chances of co-operation for any balance should be good.

In the case of small accounts it is usually quite possible to place dental services within range of the persons receiving very small incomes. This is done by offering a pay-as-you-go policy which is usually appreciated and easy to control. If a payment can only be made every two weeks, the appointments can be so arranged, and it is rarely that these cannot be met at the time.

APPOINTMENTS

Appointments should be arranged to best accommodate the patient, as these are most likely to be kept, but it should be made known to him, in a friendly way, that this is being done so that both parties may arrange their time accordingly, and not keep each other waiting. Appointment cards are most valuable to encourage promptness. There are always some whom one has not sufficiently impressed with the importance of time. These can be very definitely helped by a few diplomatic words from an efficient assistant, the first time they appear unreasonably late. These might be "The Doctor has been waiting for you, but there is a little of your time left." However, the dentist must, on his part, be ready for his patient at the appointed time, or have a reasonable excuse for any delay. At times a delay may be unavoidable, when it may be advisable to have the assistant explain the circumstances and offer the patient another appointment; im-

pressing upon him that you appreciate his time; and possibly avoiding crowding for the rest of the day.

An efficient assistant was mentioned in a previous paragraph. As, apart from the first visit, most of the arrangements with the patient are in her hands, she must be capable of demonstrating efficiency in actions and speech in order to obtain all necessary co-operation in regard to appointments, promptness, and settlement of account. For, after the work has commenced, the operator should have only the work in hand to occupy his attention.

PSYCHOLOGY

Each patient will exhibit an attitude towards dentistry which must guide the operator in both his procedure and conversation. It is here that psychology will come into its own. At the commencement, perhaps the most likely subject for discussion is dentistry, especially as applicable to that particular person, and preventative dentistry as regards to children, if they have any. The subject should not be pursued too diligently, but any opportunity to further inform the patient on the care of his mouth should be taken. There is no danger of being too cheerful in your attitude towards the patient or work in hand. Subjects of mutual interest, whether personal or otherwise, and particularly the patient's hobbies, are always distracting. Put the patient at ease.

Nervous patients must be so handled that confidence will be inspired, which will result in the necessary co-operation for the more unpleasant operations, which may have to be performed. Every care should be taken to avoid any unnecessary hurt. The patient should be warned of any expected unpleasantness. They will excuse the error if it does not materialize, but injury occurring which appears unexpected to the operator may shatter any confidence previously gained. If painful operations can be avoided by the use of anaesthetics, they should be used.

All patients should be forewarned of impending hurt. Emphasize that the pain will be for a short time only. It is the fear of the unknown that creates tension on the part of the patient. However, if he becomes accustomed to being told, when to expect disagreeable sensations, he can frequently relax until such warnings are given, thus enabling the operator to carry out his procedure more carefully and satisfactorily. Do we not, all, at times, find ourselves tuned in to the same nervous tension as the patient? If for no other reason than the personal benefit we derive from the co-operation of the patient upon whom we are operating, it would be well worth while to take a little more time with some of the more painful operations. The patient who expresses the opinion that he does not resent having fillings as much as most of his friends do, has most likely never been hurt while in the dental chair.

When the patient, whose confidence has been lost, presents himself, the necessity of spending some time, patience, and care in regaining the same must be fully realized. With this type of patient consideration of this fact must be given in arriving at a fee commensurate with the time that will be involved, but this fact need not be conveyed to the patient. Without the regaining of confidence satisfactory results cannot be obtained.

DENTURES

As a great deal of our time in general practice is taken up with denture work, a few suggestions on this subject may be excused. Many patients present themselves with the expressed idea that they are certain they "will never get used to wearing dentures." It is doubtful if this is really their belief, but a little encouragement as to their prospects, together with a strong appeal to their egoism will soon cause them to look at it in a different light. Even before the work is started they should be given a kindly comparison of artificial dentures with a natural dentition, with the assurance that most of

the discrepancies can be overcome, by due perseverance on their part. Emphasis should be given to the fact that time will be required to obtain the full value of the denture, and warning given that certain adjustments may be required. Above all, in the case of immediate dentures, the patient should be advised at the time of examination that further services on the dentures would be required in from six months to a year, making it definite, and possibly quoting a fee for same. This avoids a future misunderstanding.

Again, many present themselves (who have been discussing it with their neighbours) who are sure they will nearly choke to death when the impressions are being taken. It is perhaps permissible to advise the patient that this never happens by your method; and instruct them on breathing through the nose or through the mouth or in any other way in which their co-operation can be gained, and while they are concerned only with breathing proceed with the impression, but do not proceed until full co-operation has been gained in your distracting procedure.

In bite-taking many methods have been developed to get sufficient co-operation to obtain the correct bite. As this is not a paper on technique suffice it to say that by whatever method the operator wishes to proceed, it is necessary to have it clearly in the mind of the patient just what you wish him to do and the mention of the bite should be omitted, for the suggestion will no doubt result in over-co-operation.

While choosing the teeth, it is well to take sufficient time to obtain all the harmony possible. The patient appreciates any care that is taken in this regard, and when the teeth are ready for a try-in the patient is hardly able to wait to see what they look like. When adjustments as to aesthetics, etc. are satisfactory to the operator, the mirror is no doubt permissible, but it should be a large mirror, with the patient standing. What a wealth of information one can gain by the

patient's expressed opinion. No matter what this may be, a very considerate acceptance should be made. Anything that calls for explanation should be explained and possible adjustments or alterations made to the point where the patient shows agreement. It is possibly well at this time to advise the patient that major changes cannot be made after the completion of the dentures. If there is not acquiescence on the part of the patient during this visit or the operator wishes to make any corrections, it is wiser to have another try-in. When the waxed denture appears as satisfactory as possible to the dentist, the patient can be dismissed and advised casually by the assistant that the dentures will be completed and ready for them to wear at the next visit. This may be a suggestion for further co-operation on the patient's part, and we all appreciate how much better these dentures fit when they have been bought and paid for. When delivery is made the patient should be advised fully on the use and care of his dentures.

Adjustments are usually required, so no doubt it is advisable to make this known to the patient and make quite as definite appointments for this as for other work.

If settlement has not been made it is quite permissible, if the operator considers it desirable, to have the assistant present the account with the card for the next appointment; otherwise the account should be presented at the month-end to avoid any indication that settlement is not required until the adjustments have been completed. When adjustments are being made do not fail to commend the patient for progress made.

There are certain types of operation in which some doubt may arise in the operator's mind as to the best procedure. Many years ago the writer sought the advice of a kindly confrère who had most generously given of his time and experience on various occasions. This particular time it was a matter of "to extract or to treat." The

confrère's answer was typical of him; he said "What would you do if it was your wife's tooth?" The question was answered, and from that time on, a more frequent application of the Golden Rule has caused less interruptions in his busy practice. However, we all do those things, at times, where we know we are taking chances, especially in treatments, pulp-capping, and experimenting with new materials. At such time no doubt it is advisable to discuss the procedure with the patient, advising him of why you suggest a certain procedure (it is always prompted by conservation of tissue) and offering a more radical treatment. Let them make the decision, and with this co-operation no resulting disappointment will strain their confidence. No doubt the result will be more often gratifying than otherwise.

PREVENTION

In our field of prevention lies our greatest responsibility. This requires education of our patients. Time must be given to it. A patient must be aroused to a consciousness of the fact that they can do more for the preservation of their teeth and mouth health than their dentist, whom they visit only when they have to. Today the majority

of our clientele are tooth-conscious. They like to hear the story of their teeth, and especially of their children's teeth. It should be told on every opportunity, even if they go away and forget about it. Before leaving they express a willingness to co-operate with you in caring for their teeth, and at that time an offer of a recall service can be made. This is usually appreciated very much, and more than likely results in periodical visits. This is satisfactorily carried out by the assistant, using the telephone to arrange an appointment, and following up by mailing an appointment card. These appointments can be given to coincide with the most acceptable time for that particular patient; not offering a housewife an appointment at meal time or a school teacher nine o'clock in the morning. By this means one may avoid the extreme ravages of decay, which so often worry us. Patients do co-operate in this endeavour.

The development of co-operation of the patient resolves itself into the dentist's ability to serve him skilfully in a kindly, genial manner which warrants confidence. Added to this throughout the whole relationship, in order to avoid misunderstandings, there must underlie the principles of good business.

*In passing on bits of news you cannot possibly say with truth "Strictly between you and me" All you can say is "Strictly between you and me and everyone you are going to tell and everyone I am going to tell and everyone they are going to tell and, not only them, but everyone else who happens to overhear in the process."—
"Fougasse."*

"It is suggested that you do not blow on wax patterns in the presence of your patient."

One should take good care not to grow too wise for so great a pleasure of life as laughter.—Addison.

A Commentary on Selection of Cases for Fixed Bridgework and the Three Quarter Veneer Crown Preparation

by CAPTAIN M. J. AVERBACK, No. 38 Coy., C.D.C., Winnipeg, Manitoba.

PROBABLY no other form of dental restoration has been more severely criticized at various intervals than has the fixed bridge. But in spite of criticism, in spite of its limitations, in spite of numerous attempts to devise restorative appliances to supplant it, the fixed bridge still holds its place as an important and useful means of replacement of prematurely lost teeth. In cases where fixed bridgework is indicated, a properly constructed fixed bridge will meet the requirements of physiological function, aesthetics and comfort. A fixed bridge improperly constructed presents a failure which is much more disastrous than a failure with other forms of restorative dentistry. Failures in fixed bridgework are discouraging to the dentist and distressing to the patient. To obviate these failures the entire case must be well planned and meticulously constructed.

In the selection of cases, the initial hazard in this form of dental restoration is encountered. In some schools, due to the enthusiasm of the Crown and Bridge section of the faculty, students are taught to construct fixed bridgework wherever possible, in some cases restoring almost an entire arch by the use of four or five abutments. In other schools clinical instruction and clinical practice of fixed bridge-work are rather underemphasized. It is a sad commentary on modern restorative dentistry that many sound teeth are lost in our attempts at replacement. Whether more are lost from the

ill-advised use of bridgework than from other methods of replacement, is a question on which there is inadequate data. However the case may be, lack of judgment, both in regard to design and construction, is responsible for as many failures as lack of operative skill.

Dr. Stanley D. Tylman analyses the situation very aptly in his outline of the causes of failure in the several types of bridge restorations, as being due to a disregard for the basic laws of biology, physics and mechanics. He says:

1. A sound structure can be made only on a sound foundation.
2. The human body is the real foundation of medical or dental reconstruction and unless evaluated as such, efforts will fail.
3. It is possible to have structural form without normal function.
4. If possible, a thorough physical examination will be found valuable.
5. To ascertain the aetiology of the impairment of the mouth.
6. Not all patients are favourable subjects for either fixed or removable restorations.
7. A correct diagnosis should entail an ocular, digital and radiographic survey and include also full mouth study models. There should be determined as accurately as possible the presence of pathologic lesions, acute or chronic, and whether they have changed the normal functions of the tooth with its periodontal tissues: also

to what degree these lesions have altered their structural form.

8. A vital tooth is the ideal abutment or pier. The tooth should be tested for luxation. Very frequently we find a tooth, the coronal portion of which is entirely out of proportion to the length of the root and its attachment. Were we to use a tooth with a long crown, and a short root, our restoration would be doomed to failure in a short time owing to the resultant excessive leverage. Yet the mere fact that the tooth has a long root does not suffice; it must have a health and adequate periodontal attachment to the alveolus; otherwise its use as an abutment is contraindicated. The position of the tooth in the arch and its relationship to the teeth of the other arch must likewise be considered at this time. Elongation, marked convergence, divergence, or other malposition of the teeth may necessitate their removal or at least changing the subscribed denture from a fixed to a removable type.

9. The number and distribution of abutments in the arch is important.

10. The pontics should not greatly outnumber the abutments when a fixed restoration is contemplated.

11. The distribution of abutments must be favourable both in relation to other teeth and in relation to the abutments of the opposite arch.

12. Unparallel axis direction of the abutments may subordinate the fixed restoration to a removable one.

13. The stress exerted on abutment teeth should be consistent with the load placed upon them.

14. Teeth may move in three directions:

- (a) Vertically
- (b) Buccolingually
- (c) Mesiodistally

Because of the contact points mesiodistal movement is negligible. Buccolingual movement may be pronounced through disturbance of the normal articulation and occlusion. A pre-supposed overload will increase movement in a vertical direction.

Having selected a case for a fixed bridge replacement, our next immediate hazard is the selection of the types of restorations to be attached to the abutment teeth.

Dr. J. R. Schwartz lists the requisites for an acceptable abutment preparation as follows:

1. Should not require pulp devitalization.

2. Should permit extension for prevention without the need for too much tooth destruction.

3. Should have sufficient retention to offset counteracting stresses.

4. Should facilitate the restoration of normal tooth form.

5. Should not require complicated cutting of tooth structure.

6. Should not endanger the vitality of the tooth during preparation.

7. Should permit aesthetic replacement.

8. Should not be difficult to fit or place to position.

In stressing the importance of pulp conservation and the selection of the proper abutment attachment, Dr. Lee Walter Duxtater says:

"No attachment should be used which will favour or render easy the initiation of caries, especially in a location where its detection will be difficult. No attachment should be used which will require such deep cutting into the tooth that pulp death is likely to ensue."

Apparently many members of the dental profession attempting to employ fixed bridgework supported by vital teeth, do not realize that, an inlay which may be a satisfactory restoration for an individual tooth, and may serve as an attachment for a removable bridge employing frictional attachments, may be practically useless as an attachment for a fixed bridge. Wherever a pontic is properly soldered to a casting it acts as a lever, not only placing tortional stress upon the casting during lateral movements of the mandible, but also exerting a pull or dislodging stress during mastication of sticky foods. We must bear

CAPTAIN M. J. AVERBACK

in mind that the area of contact with these sticky foods is far greater on the pontic than on the inlay supporting the pontic and consequently we must have much greater retention for the bridge attachment than for the individual tooth restoration.

Dr. Tylman voices the opinions of many on the relative merits of inlays and crowns as abutment attachments as follows:

"Of the inlay group, the two surface types are considered the weakest and are used only in places where there are no dislodging forces and where the inlay is to receive a rest or lug. It should not be used when a soldered joint exists between it and the pontic. In exceptional cases it may be used with a soldered connection if the opposing arch carries an artificial removable denture. Moreover, when the abutment tooth is extremely short, a two surface inlay should not be used under any circumstances. Three surface type inlays may be used with soldered joints if the tooth is of sufficient length occlusogingivally. The almost universally ideal preparation, conditions warranting and permitting, is the three-quarter crown. It offers the greatest possibility for pulp conservation. Due to its thin character it allows for the casting to be made of hard gold. This reduces thermal shock to a minimum."

Being lacking in pulp encroachment, and fulfilling the requisites of retention, function and aesthetics, the three-



quarter veneer crown is the most useful bridge attachment at our disposal at the present time. If a sound structure can be made only on a sound foundation, the construction of a successful fixed bridge entails basically the exacting preparation of the abutment teeth supporting the bridge. The balance of this paper will be devoted to a description of the various steps of procedure in the preparation of a tooth for a three-quarter veneer crown.

The upper central incisor will be adhered to as the tooth under discussion. The preparation with diagrams presented are patterned after the clinics and lectures attended by those of us who were fortunate enough to be tutored by the late Dr. Edward Tinker and his associates in the section of Crown and Bridge, College of Dentistry, University of Minnesota.

The technique employed in preparing the three-quarter veneer crown consists of six definite steps.

STEP ONE—MESIAL AND DISTAL PROXIMAL CUTS

A seven-eighths inch carborundum disc mounted in a straight handpiece is used to cut away the mesial and distal contour of the tooth, so as to make the axial walls nearly parallel but slightly converging from the gingival to the incisal. When making this cut, the disc should be held at such an angle as to cut at the expense of the lingual rather than the labial surface, thereby leaving intact as nearly as possible the full mesio distal width of the labial surface. If the cuts converge excessively, too much retention is lost; if they diverge the preparation will be undercut. The cuts are carried gingivally just beneath the free gingival margin and when properly made will not include the labio gingival portion of the proximal surface, but will extend labially at the incisal so that the margin is in a self cleansing area. If these proximal cuts are made accurately, the aesthetic effect of the finished crown is practically assured. (Figs. 1 and 2).

STEP TWO—REMOVAL OF LINGUAL TOOTH STRUCTURE

The second step consists in the removal of enough of the lingual surface

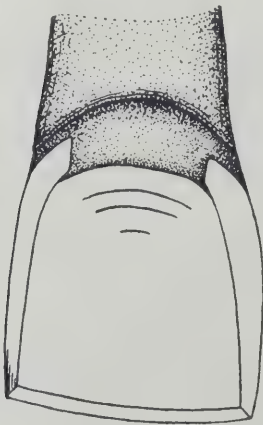


FIG. 1
Mesial and Distal Cuts



FIG. 2
Proximal View Step 1

to allow space for a sufficient thickness of metal. This cut is made with a carborundum stone one-quarter inch in diameter, mounted in a straight handpiece. The stone is held parallel with the long axis of the tooth and the cut extends from the top of the cingulum to the incisal edge of the tooth. The patient is asked to bite and proceed through the excursive movements of the mandible to ensure clearance sufficiently to provide an adequate bulk of gold on the lingual and yet maintain a normal occlusion. (Figs. 3 and 4).

STEP THREE—INCISAL BEVEL

The third step consists in cutting the incisal bevel. This is done with the same stone as used for cutting the lingual surface. Here again the cut is made at the expense of the lingual rather than the labial surface and in a place of about a forty-five degree angle to the long axis of the tooth. The bevel

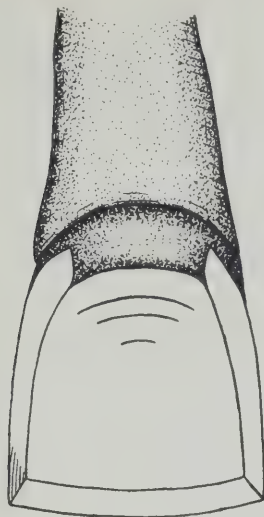


FIG. 3

Lingual Cut and Incisal Bevel

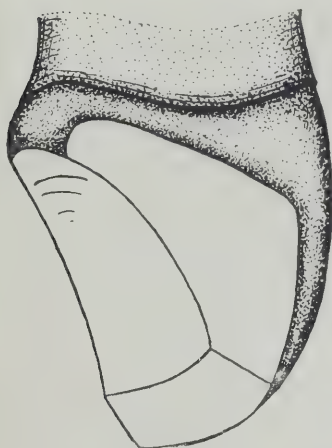


FIG. 4

Lingual Cut and Incisal Bevel

should be made as long as possible and is made to protect the incisal edge of the tooth without showing too much gold. (Figs. 3 and 4).

STEP FOUR—THE INCISAL STEP

The fourth step is started with an inverted cone stone two or three mm. in

diameter and finished with an inverted cone bur No. 39 or 40. Care should here be taken not to weaken the labial plate of enamel as this will result in the weakening of the preparation and a discolouration of the incisal border upon insertion of the crown. The incisal groove is finished with medium garnet and cuttle fish discs. The point of emphasis in this step is to place the groove in the dentine. (Fig. 5).

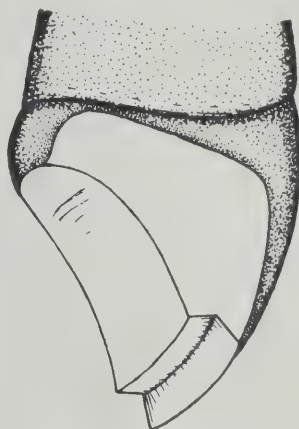


FIG. 5

Incisal Step

STEP FIVE—RETENTION GROOVES (PROXIMAL)

The incisal groove acts as a guide for the starting point of the mesial and distal retention grooves. The grooves are started at each end of the incisal step with a cross-cut tapered fissure bur No. 700 and are extended to a point just short of the margin of the first cut. These grooves should be about 1 mm. in depth and should be made parallel to the labial surface according to the type or position of the tooth. These grooves should be placed as close as possible to the labial margin and yet not undermining the labial axial plate of enamel. Thus a long groove is obtained and maximum retention is assured. With a medium garnet disc five-eighths inch in diameter, the mesial and distal cavo-

surface margins are established by levelling the area from a point half way between the retention grooves and the labial margins. A sharp chisel is used to finish these margins below the gingiva. Sharp corners are eliminated with chisels. The finished grooves should be as parallel as possible and converge slightly toward the incisal. These grooves should end in a definite shoulder or step just short of the gingival margin previously established. In some cases the grooves may be enlarged with a 557 cross-cut fissure bur. (Fig. 6.)

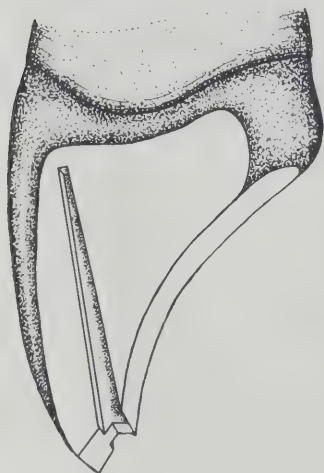


FIG. 6

Proximal Retention Groove

STEP SIX—FINISHING LINGUAL SURFACE BELOW CINGULUM

This step essentially involves removal of the remainder of the cingulum and finishing the lingual surface along the gingival to a definite line beneath the free gum margin. Barrel shaped carborundum stones and saucer shaped carborundum discs are used to complete this step, thus establishing the gingival edge of the preparation. All sharp angles are removed and the preparation is generally smoothed with cuttle fish discs. The three-quarter

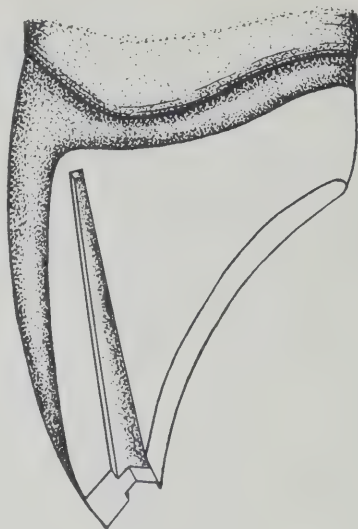


FIG. 7

Completed Preparation

veneer crown preparation is now completed. (Fig. 7).

During the preparation of the tooth, by the use of a continuous spray of warm water on the revolving stones, a great deal of pulp irritation is eliminated.

A report, given by the Curriculum Survey Committees of the American Association of the Dental Schools, included the following:

"A large part of dental service is accomplished by the use of mechanical procedures. In the past there was a tendency in dental education to place emphasis on the products of mechanical techniques as ends in themselves. The call is clearly for a proper perspective regarding this matter. Mechanical procedures are absolutely essential in dentistry, and no one can render adequate dental service without being skilled in their use. However these procedures are merely the means to an end which is the maintenance and restoration of health of the patient."

Thus it follows that while the pro-

per preparation of a tooth for a three-quarter veneer crown as a fixed bridge attachment is purely a technical and mechanical procedure, nevertheless a failure basically due to an inadequate preparation may quite conceivably have definite ramifications in the general health of the patient.

To those far sighted dental practitioners of Canada who at this moment are fervently working toward the honourable survival of our profession as a single firmly united organization from coast to coast, prepared in scientific and fraternal unity to dictate its own mode of dental administration in the post-war world rather than have it dictated to the profession by the laity, this paper is respectfully dedicated.

BIBLIOGRAPHY

1. Marcus L. Ward, D.D. Sc. (Text)
"American textbook of Operative Dentistry." 1940
2. Schwartz, J. R., D.D.S. (Text)
"Modern Methods of Tooth Replacement." 1942
3. Tylman, S. D., A.B., D.D.S., M.S., F.A.C.D.
"Clinical and Radiographic Observations in Fixed and Semi-Fixed Bridgework." J.A.D.A. Aug. 1927
"Essential Factors in Fixed Bridgework." J.A.D.A. April 1933
"Fixed and Semi-Fixed Bridge." J.A.D.A. Feb. 1927
4. Crown and Bridge Manual (1934)
College of Dentistry, University of Minnesota.

Change of Address

Notice of change of address should reach the Secretary's office before the first of the month in which the change is to take effect. Please furnish old as well as new address.

Members in the Military Services may have the Journal sent to home address or military address as desired. If the Journal is to follow you it will, of course, be necessary to keep the office posted about address changes.

In all cases, the former address should be given.

Address all communications to:—

*Secretary, Canadian Dental Association,
211 Huron Street, Toronto, Ontario.*

Convention

Dental Society of Western Canada,
Winnipeg, June 18-20, 1945

*"The world turns aside to let any man pass who knows where he is going."—
David Starr Jordan, President of Stanford University.*

"Every man should embrace the opportunity for cultural advancement. Culture begets culture. A cultured dentist attracts cultured patients. There is happiness here."

Schoolmaster Abroad

QUESTION:

A CHILD 3½ YEARS OF AGE HAS BEEN PRESENTED IN A DENTAL OFFICE FOR ORTHODONTIC ADVICE. ALL THE DECIDUOUS TEETH ARE IN PLACE AND IN GOOD SHAPE AND THE ARCHES APPEAR NORMAL. WHEN THE MOUTH IS CLOSED NORMALLY, THE ANTERIOR TEETH MEET END TO END AND THE POSTERIOR TEETH DO NOT TOUCH. IN ORDER TO BRING THE POSTERIOR TEETH INTO CONTACT, THE MANDIBLE HAS TO BE PROTRUDED. SHOULD ORTHODONTIC TREATMENT BE COMMENCED AT ONCE OR SHOULD ONE WAIT UNTIL THE CHILD IS OLDER?

ANSWER:

(By Dr. W. W. Woodbury, Orthodontist, Dean of Dalhousie Dental School, Halifax, Nova Scotia.)

There is some uncertainty regarding the antero-posterior relation of the arches. It is stated that "In order to bring the posterior teeth into contact, the mandible has to be protruded." We are not told, however, what the relationship of the molars is when this is accomplished, i.e. whether a temporary mesiocclusion is thereby induced and possibly a cross bite in the molar region. Nor do we know if this molar contact, whatever its pattern, is habitual during mastication or whether it is only brought about occasionally on effort.

In spite of these uncertainties, however, there seems to be sufficient evidence to suggest that the case be kept under observation for the time being. Correction of the condition now will not assure a typical occlusion of the permanent teeth when they erupt, nor will failure to treat the deciduous

teeth necessarily fix the same occlusal pattern on the succeeding permanent dentition. Nobody knows at this stage what growth may accomplish so why not give the youngster the benefit of the doubt instead of placing appliances in the mouth of such a very young child in order to bring about what growth may accomplish later?

A child of 5½ was presented in October 1941 with well formed deciduous arches in correct antero-posterior relation so far as the canines and molars were concerned. All the mandibular incisors, however, were biting labial to the maxillary incisors. When last seen in September 1943, the permanent central incisors were erupting in normal relation to each other and this without any treatment whatsoever. This case is by no means identical with the one under discussion but there is sufficient similarity to strengthen one's decision to observe for the present rather than to treat at once. See the child once a year, or less, and be governed by what takes place.

ANSWER:

(By Dr. A. W. McClelland, Orthodontist, Drummond Building, Montreal, Quebec.)

This little child seems to have the beginning of a malocclusion of the prognathous type, extremely disfiguring orally and facially as the years go on. Also these cases become increasingly difficult to treat as the child gets older.

I would put bands on the upper four incisors, to which would be soldered to the lingual surface of each band a plane projecting below the incisal plane so far that the child must close normally mesiodistally.

If the posterior teeth are in infra-

occlusion then, and because of the planes the child is prevented from thrusting the mandible forward, I think the posteriors must come into occlusion shortly, because the child is now at the age when he is using his teeth more vigorously for mastication.

ANSWER:

(By Dr. G. Vernon Fisk, *Orthodontist, 818 Medical Arts Building, Toronto, Ontario.*)

In the case described, the rate of growth of the mandible appears to be slightly more accelerated than that of the maxillae hence the end to end relationship of the incisor teeth when the jaws are closed normally and the protrusion of the mandible to overcome this incisal interference. As closure of the mandible in this protrusive position activates the pterygoid muscles thus causing a pull posteriorly upon the mandible, particularly during function, which further inhibits the forward growth of the maxillae; early orthodontic intervention is indicated. As some disharmonies in jaw growth are associated with adenoid vegetation and tonsillar enlargements an examination by an otolaryngologist is advisable.

One of the simplest methods of treatment is to instruct the patient in the use of a tongue blade to exert forward pressure upon the maxillary incisors. One end of the tongue blade is grasped in the patient's hand while the flat surface of the other end is placed against the lingual surfaces of the maxillary incisors. When the mandibular incisors are closed upon the blade they act as a fulcrum to tip the maxillary incisors labially and to tip the mandibular incisors lingually to relieve the interference. Three or four ten-minute, daily sessions extending over a period of approximately two weeks are usually necessary for effective results with this method. In order to establish the incisors in their new relationship, a three inch

gauze bandage may be applied under the chin and tied firmly over the head for one or two nights after the normal incisor relationship has been established.

In some cases, however, the operator may wish to choose methods of treatment which are not dependent upon the co-operation of either the parent or child. Two such methods are outlined as follows:—

If the depth of the overbite when the jaws are closed in the protrusive position is one half or more the length of the maxillary incisors, an incline plane which has an action similar to the tongue blade may be shaped in wax upon the mandibular incisors and cuspids, cast in acrylic and cemented to place.

If, however, the overbite is shallow, bands or overlays with half-round tubes soldered to their lingual surfaces should be fitted to the maxillary second deciduous molars and an arch wire adapted to the lingual surfaces of the maxillary teeth. One or two adjustments of auxiliary springs soldered to the lingual arch are usually sufficient to tip the maxillary incisors labially to occlude normally with the mandibular incisors.

ANSWER:

(By Dr. Stephen A. Moore, *Orthodontist, 260 Queen's Avenue, London, Ontario.*)

I would think that orthodontic treatment is indicated immediately, as I believe from the question that the condition present will develop into a Class 3 or mesiocclusion. I note that when the mouth is closed the incisor teeth bite end to end but the posterior teeth do not meet which would lead one to believe that it is a position of convenience but that the functional position is with the mandible protruded and, if the child continues to bite in this position during function, the teeth will develop into a true mesiocclusion. If the teeth are left in this mal-relation the condition will

become progressively worse and more difficult to correct, with the possibility that later as pleasing a result may not be obtained.

In some conditions of malocclusion there may be doubt as to the best time to undertake treatment but in conditions of this nature I think treatment is indicated at the earliest age the operator can place appliances in position and secure the co-operation of the patient. I certainly think this could be done at 3½ years of age.

There is a possibility that this child may have a habit of protruding his jaw. Sometimes this may be caused by an abnormal amount of tonsillar tissue and this movement seems to give the child relief. If this condition is present it should be corrected and with the wearing of intermaxillary elastics it will assist the child in breaking the habit.

ANSWER:

(By Dr. B. E. Brownlee, Orthodontist, Winnipeg, Manitoba.)

The restoration of NORMAL FORM AND FUNCTION should be completed at the earliest possible time. This date should, of course, be set after due consideration of all known factors involved in the situation.

The first step should be to determine, if possible, the cause of the divergence from normal pattern.

Have the tonsils thoroughly examined for deeply buried infection regardless of any superficial appear-

ance of innocence? If infection and damage are located, build your appliance before the removal of the tonsils. You will get much more co-operation from the patient if you have established confidence before surgical procedures are undertaken. If infection is proven and not removed, do not attempt remedial action as there is too much risk of increasing the mal-relation instead of reducing it. If infection is ruled out, check over the other members of the household and intimate contacts, in search of someone showing similar mal-relation as the child may be imitating posture or jaw-positioning to the point where such action is producing a change in relationship of the teeth. If tonsils and habits are eliminated as probable causes, check with the family physician for endocrine imbalance, hereditary factors, etc.

Inclined planes, fixed or removable, depending on the degree of co-operation you can get from the patient, should be sufficient to correct the malocclusion at this stage of development.

If you have seen the excellent development of contour and profile in a case restored to normal at this age and compare it with the average mesioversion case treated at later ages, you realize that there is ample justification for the extra patience and persistence sometimes needed in overcoming such difficulties as one must expect to encounter in dealing with patients of this age.

All of us who are in control of business concerns are deeply exercised regarding the various methods adopted by the authorities for training the youth of the country.

We are all agreed, I believe, that the one training—admittedly, of course, a complementary one—which gives us at least most of the qualities we desire to see in our young men is the training of a Scout. If a Scout has learned loyalty, courtesy, efficiency and observation, he has got most of what our young men want and we want from them.—Lord Portal in a letter to "The Times." Per Medley.

The Forum

SOCIAL CHANGES INVOLVING DENTISTRY

Editorial by Arthur H. Merritt in New York Journal of Dentistry, October, 1944.

IN a thought-provoking article by Ray Lyman Wilbur, M.D., published in the *Journal of the American Medical Association*, the statement is made that "It is inevitable that more and more subsidiary help will be needed to make it possible for the carefully trained physician to do what he is trained for. Nurses, laboratory workers, physiotherapists, technical assistants, secretaries, and pharmacists multiply what the physician can do for his patient and for the public. These should be organized by the doctor and not for him. Along with the revolutionary changes in medicine itself we are undergoing rapid and even kaleidoscopic social changes in which medicine is involved. If the physician can participate in and guide these changes, all will profit more. If he does not, others will."

Suppose now the words dentist and dentistry be substituted for physician and medicine and the above quotation be re-read with these changes. Can anyone doubt that Wilbur's observations apply with equal force to dentistry? When one considers the almost universal need for dental service, the increasing recognition of this need on the part of the public, plus the decreasing number of dental practitioners, may it not apply with even greater force?

Whatever difference of opinion there may be as to what should be done to meet the situation, there can be no doubt whatever that these "social changes" involve dentistry and must

be reckoned with. Nor can there be any doubt that the public is going to demand that something be done about it. If the profession does not take the necessary steps to meet these "social changes," the politicians will.

There are two ways in which the problem involved in these "social changes" can be approached and both will need to be considered if it is to be solved. One of these is the long view approach and must be given first consideration in any attempt to solve the problem. It cannot be expected, however, to meet the immediate need of those requiring dental care. This must be done as far as that is possible by the second approach to the problem; namely, that of increasing the facilities for providing the service so urgently needed. To do this requires that the source of supply be increased which for one thing means a larger number of dental practitioners. Another is by the use of "subsidiary help" which in dentistry as in medicine should be organized by the profession and not for it by some outside agency. If medicine recognizes this need and is not afraid to seek the cooperation of allied workers in meeting it, why should dentistry? It too has its "nurses (dental hygienists), laboratory workers, technical assistants, secretaries," supply houses, and so forth. There is certainly enough vision in the dental profession to harness these "subsidiary helpers" into an effective ally that should have the approval of all concerned—the public, the allied groups

and the profession. Steps to this end, however, should be undertaken by organized dentistry, not by outside agencies nor by individuals or groups within the profession. It presents a problem so far-reaching in its implications that it needs and should have the

matured judgment and ripened experience of the best minds in the profession, plus the endorsement and support of the American Dental Association. Given this, dentistry cannot fail to meet the challenge implied in these "social changes."

FUTURE DEVELOPMENTS IN PUBLIC HEALTH

by E. G. McGAVRAN, M.D., St. Louis, Mo.

Summary of paper in J. of Orth. and Oral S., July, 1944.

THE future is not a crystal globe but a mirror. In it we can see certain inevitable developments: *the extension of socialized and state medicine, an increase in the dental income, an increase in private practice of dentistry, an increase in the standards of dental education, an increase in research in preventive children's dentistry.* These are some inevitable developments in the immediate future, but

they are predicated upon the renewed recognition of the importance of protection of public health and the development of adequate health programs. The tools to accomplish this task are in the hands of organized medical and dental professions who, with the aid of organized public health, can and will build a better world for our professions and our people.



Reproduced by special permission of the Saturday Evening Post.
Copyright 1944, by the Curtis Publishing Company.

FLUORINE AND DENTAL CARIES

Excerpt from British D. Journal, April 1944,—per Dental Record.

THE conclusion that must be drawn is that in fully erupted teeth fluorine is absorbed by the enamel directly from water while it is in the mouth. Evidence that fluorine has a special affinity for tooth substance is forthcoming from other sources. Fluorides have been shown to react with powdered enamel and dentine just as they do with other basic calcium phosphates, and the solubility of the tooth substance in acid is thereby decreased. It appears from the evidence available that fluorine protects the teeth by combining with the enamel, thereby making it more resistant to the

products of bacterial action in the mouth. A large-scale human experiment comparing the effect of using a water with 1 p.p.m. of fluorine and a dentifrice containing fluoride merits an extensive trial under well-controlled conditions. The effect of sucking tablets containing fluoride, as suggested by Broderick, should possibly also be included in the comparison. Prophylaxis in the future may lie, not in regulating the amount of fluorine in water supplies but in legislating for the compulsory inclusion of specified amounts of fluorine in every dentifrice that is sold.

DIET AND DENTAL DISEASE

by GRANVILLE H. TEALL, L.D.S. U.Birm.

(Condensed from Dental Magazine and Oral Topics.)

DISEASE of many kinds, and dental disease is only one of them, follows closely in the wake of so-called civilization or progress. The way of wisdom is to seek the cause—for prevention is better than cure.

So many people fight shy of Christianity because of the demands it makes upon them, for a Christian life is not an easy, though a happy, one. It is much the same in matters of health—most people will not face up to the facts, even when the way is clearly shown to them. A few pills or tablets are so much easier to take than an eight-mile walk each day. The great cry is: "I haven't the time," when they really mean "I haven't the will."

It is of little use trying to tackle dental disease in an unhealthy body, and the dentist should be in a position to give advice on health matters.

In my opinion, the first essential of all living creatures is a sufficient daily output of physical energy, combined with a sufficient amount of sleep, i.e., eight hours for adults, and ten hours for children and elderly people.

The second essential is proper food.

Most disease, including dental, is due to lack of mastication. "Stop hurrying over meals," "For goodness' sake chew your food"—these should be slogans ever before us all. It is important to explain to patients the reasons for mastication.

Secondarily, on the dental side, disease is due to lack of bodily exercise.

Both mastication and exercise are desperately important—much more so than all the study of vitamins and minerals.

The following is a guide as to what is considered necessary in a pleasurable way each day if no other exercise is taken:—

- (1) Brisk eight-mile walk.
- (2) Twenty-five-mile cycle ride.
- (3) Round of golf, carrying one's own clubs.
- (4) One hour's continuous tennis, badminton, squash or figure skating.

If this is impracticable, there is no excuse for not trying to get as near to it as possible.

It is necessary to regulate the quantity of food eaten to the amount of daily energy expended.

It is hardly possible to drink too much water. It is the only drink one can take liberties with. Drink plenty of water each day, then, preferably before meals.

Eat as much uncooked or natural food as possible each day. If cooked food must be eaten, confine it to one meal a day. Despite all that is said to the contrary, I believe that the application of heat to food destroys some of its most valuable properties, and the eating of so much cooked food is one of the definite causes of disease.

These are the instructions I give to patients:—

1. Each meal, especially those when foods made from flour or sugar are eaten, must be finished with uncooked fruit or vegetable of a hard chewable character.

2. All foods must be well masticated

—sixteen chews, eight on each side, is a minimum.

3. The biting of food is equally as important as mastication. This will help to prevent caries of the front teeth, keep them their proper colour, and relieve many from the necessity of scrubbing at them with a toothbrush to get them clean.

Bite as much of your food as possible, especially the uncooked varieties.

4. No eating at all between meals.

5. Casual eating of chocolates or sweets is forbidden; these can be had at meals as a good helping in lieu of so-called "pudding." For some years at home we have been in the habit of having 2d. slabs of chocolate at the midday meal once a week.

Dental disease cannot be considered from the dietetic aspect only, but must be studied in conjunction with bodily fitness.

The real solution to the problem lies in healthy living and simple feeding.

MAN'S MOST CREATIVE YEARS: THEN AND NOW

by PROFESSOR HARVEY C. LEHMAN; Ohio University

Excerpts from Science Magazine Nov. 5, 1943

IN PREVIOUS articles the present writer has presented age-curves which set forth the chronological ages at which world-famous geniuses have either achieved or first published their best work. The present study is an attempt to discover whether or not the age-curves thus far obtained are destined to hold for future as well as for past centuries.

For 12 of the fifteen types of creative endeavour that have been mentioned in the present article, the contributions of more recent era were made at younger age levels. For three of them namely, chemistry, astronomy and oil painting, no significant age-change is evident. Just why 80 per cent of the age-curves which reveal brilliant intellectual attainment should start their descents at earlier age levels for the more recently born individuals the present writer does not know.

The data reveal no factual basis for supposing that the most important creative work of the present day is being done by individuals who are older than the contributors of past centuries have been. Indeed, if any genuine age-change has been occurring (something more than a mere decrease in time-lag), the change seems to favour the younger rather than the older age-groups. And if a review of what has taken place in the past is an indication of what is likely to occur in the immediate future, it seems clear that there is no evidence whatever to support the hypothesis that future generations of creative thinkers will attain their peak output at increasingly older age levels. However, as was stated previously, this generalization does not hold for quantity of output but only for creative work of the highest merit.

VINCENT'S INFECTION: OBSERVATIONS AND CONCLUSIONS REGARDING THE AETIOLOGY AND TREATMENT OF 1,017 CIVILIAN CASES

By A. FRANK STAMMERS, B. D. S. Birm.

Summary of paper in Br. D. Jour., April 21, 1944

THE histories, clinical appearances and treatment of 1,017 cases of Vincent's infection occurring in civilians form the basis of the paper.

The literature is reviewed under the separate headings and the writer's observations compared with those of other authors.

The incidence is discussed in relation to the recorded admissions of new patients between June, 1941, and December 1942, and the probable connection between the time of year, air raids and greater industrial effort and the increased incidence is noted.

Young adults between 19 and 30 formed 66.96 per cent. of the total cases, and only 3.44 per cent were under 14 or over 40. The sexes were equally affected.

No history of contact or association with an infected person was obtained from 956 patients, many of them used works canteens more or less regularly, yet the maximum number of employees of the same firm during the whole period of eighteen months was forty-two, and never more than eight of these were under treatment at the same time. No more than two members of the same family were seen and no groups from the same locality.

Pre-existing pathological oral lesions were observed in 1,014 cases.

It is concluded, therefore, that healthy mouths are immune to the disease and that the majority of cases are autogenous in origin.

Fuso-spirochaetal organisms were present in all cases examined and their staining properties gave an indication of the stage of the disease. They are considered to be the exciting cause but their pathogenicity is dependent upon predisposing factors.

The incisor region was involved in 80.1 per cent of cases (the region most affected by the "open lips" habit).

This habit, in association with smoking, mouth breathing, etc., is considered to be the most important of the predisposing causes.

Acute lesions following recent extractions were observed in eighty-three cases and the importance of early diagnosis is stressed.

The war-time diet of industrial workers is thought to provide adequate vitamin intake. In conjunction with the results of vitamin therapy this leads to the conclusion that in the present state of knowledge hypovitaminosis is an unimportant aetiological factor.

The clinical appearances and symptoms are described and classified as "Pre-Vincent's," "Acute" and "Sub-acute." The initial lesion is demonstrated to occur at the lower part of the periodontal sulcus.

General results of treatment are given. No recurrence was observed in 601 out of 617 completed cases (97.4 per cent.), and there was recurrence in 128 out of 463 uncompleted cases (27.6 per cent.).

The writer's experience with various methods of treatment is described.

Thorough mechanical cleansing at the earliest possible moment is strongly advocated as the basis for all forms of therapy. Chromic acid (20 per cent.) and hydrogen peroxide were found to be the most successful for the acute stage, and zinc oxide and oil of cloves packing for the later stages. The patient's full co-operation was found to be essential for rapid cure and prevention of recurrence.

Potassium chlorate was found to be beneficial and without harmful effect.

Vitamin therapy was disappointing in its results, and only 17.8 per cent of cases showed any real response.

MODERN TRENDS IN MEDICAL PRACTICE

by JONATHAN C. MEAKINS, Montreal, Quebec.

(Excerpt from paper in Canadian Medical Association Journal.)

A GREAT cause of physical illness is nutritional deficiencies. This is primarily an economic problem. The minimum wage should not be based upon dollars and cents as such but upon the requirements of a healthy standard of living in regard to food, housing, and recreation. The incidence of mental and physical ills will rise in inverse ratio to this level. The enactment of unemployment insurance is undoubtedly a step toward this end and will be successful provided the returns to the unemployed individual are sufficient to accomplish the needs just mentioned. If they are not, it is obvious that they will not fulfil the purpose of this Act.

The problem of mental disease is one of the most pressing of our time. You will appreciate this when I tell you that in some parts of this country we send as many young people to mental hospitals as we do to the universities, and spend three to four times as much upon them. Over 50 per

cent of all hospital beds in this country and in the United States are occupied by neuro-psychiatric disabilities.

There appears to be a rather fatalistic attitude in the minds of most people as to the possibility of alleviating this catastrophic condition of affairs. It is true that we cannot give the assurance in regard to these that we can to those ills due to infectious agents and the deficiencies of nutrition; but much can be accomplished towards their prevention. If we spent the annual cost of ten of these patients per year for every 100,000 of our population or fraction thereof, we could strike at the root of most of them during childhood or early adolescence by the further development of mental hygiene and our Juvenile Courts. Further, if we had compulsory laws that could be enforced for the isolation and treatment of the syphilitic, an important cause of adult insanity would be removed.

RESEARCH

From Radio Address by CHARLES F. KETTERING, Director of Research for General Motors.

INTELLECTUAL prodigies are rare; each generation produces some, but most of the world's work is done by people like ourselves with just ordinary abilities who may reach positions of excellence or responsibilities by practice, study, and plain persistence. More is accomplished when men work in groups or an organization. There is nothing magical about research. It is not necessary to have expensive apparatus or elaborate buildings. Actually, research isn't a physical thing at all, just a state of mind. It is an intense desire to do something. The process is so simple that anyone can do research anywhere, at any time. First you select the problem you would like to solve. Then you list ten obstacles that may

be encountered. In picking the problem be sure that it is worth the effort. It takes just as much effort to solve a useless problem as a good one. Next you start testing the ten obstacles that you must overcome. Take the easy ones first, and by a process of elimination you at last arrive at the one or two major obstacles. You may need some apparatus for these, but the things you will probably need most are infinite patience and persistence. Few people realize how difficult it is to do any new thing and they quit before the job is finished. We get discouraged too easily. In school we are examined two or three times a year. If we fail, we are out. In contrast, most research is 99% failure, and if we succeed once, we are in.

CERVICAL CARIES IN GUM CHEWERS

by MYRON S. ROTHENBERG, D.D.S.

Lt U.S. Army Dental Corps

Condensed from The Dental Students' Magazine—October 1943—P. 18—19.

THIS paper deals with a series of observations made at an army dental clinic wherein a relationship between cervical caries and continuous chewing of commercial gum was found to exist.

Before going further, let me state that it is not my contention that all gum chewing is harmful. However, my observations lead me to believe that excessive and continuous chewing daily over an extended period will undoubtedly lead to rampant cervical caries in all but very resistant teeth.

To many this will seem to be an obvious fact. However, most practitioners, and certainly almost the entire laity, look upon the practice of gum chewing as innocuous, if not actually beneficial to the teeth. It is the purpose of this paper to show the ravages caused by this harmful practice in the hope of saving thousands of teeth and much grief to the dentist because of recurrent decay.

Research at an army clinic cannot, of necessity, be extensive, because of the vast amount of rehabilitative work to be done. The most that one can do is to base conclusions on a limited number of clinical examinations and case histories. This was done in the case of 23 heavy chewers, admittedly a small number, but the findings were so significant that it is felt they should be known to all practitioners interested in preventive dentistry. Twenty

of the cases examined showed rampant cervical caries to a greater or lesser degree. The other three displayed caries-free mouths. One of the latter spent the greater part of his life in territory known to have fluorinated water.

Most authorities today agree that the action of *Lactobacillus Acidophilus* on carbohydrates, with the resulting formation of acids, causes the initial lesion of dental caries. High carbohydrate diets usually result in a high incidence of caries. However, ordinary chewing gum is not generally regarded as being of high carbohydrate content. Most of the dentists questioned estimated the presence of from ten to fifteen per cent of sugar in a stick of gum. The true formula will astound many in its high carbohydrate content. This formula for a commercial chewing gum was given by a large manufacturer, and is representative.

Gum Base	15%
Corn Syrup	18%
Sugar	55%
Dextrose	12%

A similar formula may be found in Bennett's Chemical Formulary, (1) It will be noted that the carbohydrate content of chewing gum is between 75% and 85%.

Submitted for publication by

Dr. R. G. Ellis,

Chairman of Research Committee,
Canadian Dental Association.

THE BENGAL FAMINE

IN REGARD to the recent famine in Bengal, India, Dr. A. V. Hill writes to *The Times*, London, as follows:

There has been much fruitless re-
crimination about the recent famine
in Bengal: instead of arguing about

the symptoms, let us face the facts of the disease itself.

(1) The mortality in India at all ages is four to eight times ours; the expectation of life at birth is 26 years instead of our 62; only half the people

born reach 22 years, instead of 69 with us.

(2) Ill-health is correspondingly prevalent; between 100 and 200 million people, out of 400 millions, suffer from malaria every year; tuberculosis, cholera, small-pox, plague, guinea-worm and filarial infection, yaws, kal-azar and many other diseases take their continual toll of life and health.

(3) A large part of the population is underfed, according to any reasonable standards more than half; of these, many millions are living near the verge of starvation.

(4) Chronic malnutrition acts with disease in a vicious circle, producing poverty and inefficiency.

(5) In spite of all this, the population of India is increasing now by about 6,000,000 a year, about 15 per

thousand per annum.

There is nothing new about disease and under-nourishment in India: indeed the present population trend is a sign that they have rather less effect than formerly. . . . Already about 50 per cent more food is needed in India. Can agriculture by present methods catch up and cope with the expanding population?

It is idle to talk of family limitation, except as a long-term policy; and the present need is acute. The factor of safety indeed in India is very low. Disorganization or disorder could lead to frightful tragedy. Co-operation by all men of good will in the whole-hearted development of India's resources by modern scientific methods is the only hope of averting it. —Science.

THE ACIDITY OF DENTAL CEMENTS

by SQUADRON LEADER WARREN HARVEY, M.R.C.S., L.R.C.P., L.D.S.Eng.,

L. F. LE BROCCO, B.Sc., F.R.I.C.,

and FLIGHT LIEUTENANT L. RAKOWSKI, *Inz. Chem.* (Warsaw)

Conclusions of paper in Br. D. Jour., Aug. 18, 1944.

THE mist of confusion concerning the effects of dental cements on the pulp, which has formerly befogged the minds of both practitioners and manufacturers, has been lifted by the histological evidence of Manley and others. Failure to appreciate and respect the biology of the pulp and dentine, together with grave sources of error introduced into the estimation of the pH value of the plastic cement are considered to be responsible for the confusion in the literature mentioned earlier in this report. The cause of the pulp damage is considered to be the very high acidity of zinc and copper oxyphosphate and silicate cements at the time of insertion into the cavity. Several confirmatory methods of determining the pH values of setting cements are described and the histological picture of the damage that may

be produced is in agreement with the degree of acidity of the cement used.

Protection of the pulp and dentinal tubules from the acid cements is no longer a whim of the manufacturer or peculiarity of the practitioner, but has become their responsibility to patients, especially to those in their first three decades.

Since it is known both clinically and histologically that zinc oxide and eugenol or oil of cloves cause practically no damage to the pulp, it is strongly suggested that this mixture should be used with or without "hasteners" as a safety lining for all cavities, especially in young people and where the cavity is extended so as to open up fresh tubules, before the insertion of zinc or copper oxyphosphate or silicate cements.



Editor: M. H. GARVIN, Winnipeg

Assistant Editor: T. R. MARSHALL, Toronto

Associate Editors:

PRINCE EDWARD ISLAND:

D. T. Waye, Charlottetown

NOVA SCOTIA:

Warren C. Oxner, Halifax

NEW BRUNSWICK:

W. C. Carruthers, Saint John

QUEBEC:

E. M. Laurin, Montreal

ONTARIO:

T. R. Marshall, Toronto

MANITOBA:

J. F. Morrison, Winnipeg

SASKATCHEWAN:

F. C. Harwood, Moose Jaw

ALBERTA:

John Clay, Calgary

BRITISH COLUMBIA:

H. M. Cline, Vancouver

Fluorine and Dental Caries

Rowlett of England, in a recent address, given in Toronto, said "Every man, woman and child will be a humanitarian target in the post-war world and therefore a comprehensive health service must be developed". Upon this we are agreed. That is our objective but how to reach that objective is quite a different matter.

Previous to 1895 the emphasis was placed on the physical environment of men such as the provision of clean water. Then followed the era of health education, the effort to reduce the prevalence of tuberculosis. Now it is our goal to have every individual participate in the knowledge and practice resulting from modern research. Consequently we should combat at every turn the miasmatic vapours which arise from the very pores of our social structure and fight for a health service on the very highest level of personal and group performance.

Undoubtedly one of the great problems in any efficient health service is that of dental caries. Great honour should come to him who really finds the answer to this mystery.

As a result of many popular magazine articles appearing within recent months, great interest has been created in the minds of the public as to the possibility of placing fluorine in our water supplies with the object of reducing the incidence of dental caries. It is fairly well established that while more than one part of fluorine per million parts of water will produce mottled enamel that an amount not in excess of this proportion will not produce mottling and will reduce the amount of dental caries to a

considerable extent; that is if the child grows up in an area where such water is endemic.

In September it was stated that the City Council of Brantford, Ontario, was seeking the "full co-operation" of the Ontario Department of Health for water fluorination in that city. It was stated that the Brantford Board of Health was convinced that the experiment would be decidedly worth while.

Two other demonstration control programs inaugurated this fall, are also of interest. New York and Michigan have undertaken a project to add up to 1.0 per million sodium fluoride to the municipal water supply in two communities to ascertain the benefits. Newburgh, with a population of 30,000 is to be the study city in New York and Kingston is to be the control city. In Michigan Grand Rapids is to be the study city and Muskegon is to be the control city. It is hoped that in the course of some years that some valuable data will be forthcoming as a result of these controlled experiments.

I would not like to have children of mine grow up in Newburgh or in Grand Rapids, or in Brantford either if fluorine is to be added to the drinking water, that is until we know more about this problem, for our present knowledge does not justify this radical procedure.

Sodium fluoride is highly toxic and we do not know what other conditions may arise. Anthony says editorially in the October issue of the A.D.A. Journal, "We do know that the use of drinking water containing as little as 1.2 to 3.0 parts per million of fluorine will cause developmental disturbances in bones as osteosclerosis, spondylosis, and osteopetrosis, as well as goitre, and we cannot afford to run the risk of producing such serious systemic disturbances".

We know further that the amount of water taken into the system cannot be controlled, therefore the total intake of fluorine cannot be controlled. We are told also that teeth are structurally weak and brittle and break easily when fluorine is taken regularly. However, the greatest objection is the one stated by B. Gottlieb in the Texas Dental Journal of last June which article was republished in this Journal in August. Gottlieb states that there is a powerful attraction between fluorine and calcium and while fluorine is good for the crown of the tooth it is bad for the root, that better calcification of the enamel means that it is more difficult for caries to develop while the more calcified the root surface becomes, the less it can fix the periodontal fibres, with the result that people living in fluorine areas lose their teeth very often at a young age. Therefore, Gottlieb believes that fluorine should be removed from drinking water whenever possible.

If these statements are correct then surely it must be a great mistake to place this chemical in our drinking water and it would seem that the first thing to do would be to prove some of these pronouncements. There are many areas where it is known that a high percentage of fluorine is to be found in the water. Why not make a study of such areas, not only

of the water but of the soil and of course a very careful examination of those who have lived in these areas for a long time? In this way, some valuable information could be obtained. If fluorine taken internally affects the bony structure of the tooth surely it must affect all the other bones of the body and if this effect is undesirable, then fluorine is not to be considered.

We have read of the beneficial effects of the local application of a fluorine solution and this offers possibilities. It may be feasible to develop some mouth wash or tooth paste containing sodium fluoride which may prove very beneficial but this is a different matter to taking this poison internally. However, Dr. Ast of New York in commenting on dentists prescribing a sodium fluoride solution for self medication in as potent a solution as 1% or 2% points out that this may be definitely harmful.

It is interesting to note that the symposium on sodium fluoride held at the New York Academy of Medicine under the auspices of the New York Institute of Clinical Oral Pathology, October 30, was a huge success. Every seat in the large Hosack Hall was taken and many stood throughout the meeting. The audience was made up of dentists, physicians, and laymen.

The historical survey was given by Dr. F. S. McKay of Colorado Springs. Doctors Dean, Senior Dental Surgeon, U.S.P.H.S. Bethesda, Md.; Bibby, Dean of Tufts Dental College, Boston; and Armstrong of the University of Minnesota gave informal lectures illustrated with lantern slides. The program concluded with a formal paper by Dr. Ast, Assistant Director for Oral Hygiene of the New York Department of Health which dealt with the experiment being made at Newburgh. Later the entire proceedings will be published and be made available to those desiring the same. It is hoped that much progress was made in the study of this important subject. At the time of writing this report is not available for study.

Periodontal disease presents much more of a problem to the dental profession than does dental caries and is a much more serious matter from a general health standpoint and for this reason should never be lost sight of in tampering with our water supply or in the adoption of any other procedure which can have any bearing upon this important phase of dental health.

CORRESPONDENCE

RE DENTAL FEES

Toronto, Ontario,
October 27, 1944.

To Chief Dental Officer,
Department of Pensions and National
Health, Ottawa.

The enclosed chart shows the findings and recommendations which are the result of a

dental examination which I performed for Colonel ----- who was just lately demobilized and who presented an authority to receive dental treatment at the expense of the Department of Pensions and National Health. He did not have a chart to show what treatment had been recommended by the dental

officers but this is likely because the officer desired to leave the nature of periodontal treatment to be performed to the judgment of the civilian dentist.

Colonel ----- is very happy in the opinion that the Department of Pensions and National Health is doing a magnificent job in providing free medical services to demobilized men and he firmly believes that he is to be provided with whatever dental services he requires. I feel that the limitations of the services for which the department will pay should be made clear to men being demobilized to save the patient and the dentist the embarrassment which now exists in this case.

As my chart indicates, I believe radiograms are desirable for the completion of the examination.

The extraction of the non-functioning lower right third molar is desirable as a means of stopping the progress of the periodontal pockets between it and the adjoining second molar.

The radiographic evidence may indicate that either or both the upper left second molar and lower right second bicuspid, which do not respond to vitality tests, should be extracted. The missing teeth should be replaced because there is already evidence of closure of the bite and the bicuspid are showing abnormal mobility as a result of abnormal occlusal load.

And finally, treatment for the already existing periodontal lesions is necessary if the health of the mouth is to be reestablished. Before speaking with Colonel ----- about the fee allowance for periodontal treatment I decided to await your reply to this letter.

As I remember the fee schedule for periodontal treatments, it amounts to two dollars per treatment with a limit of four or five

treatments allowed. Successful treatment of the moderate degree of periodontal disease in Colonel -----'s mouth would require several hours of careful and skilful effort and the total fee of eight or ten dollars which is allowed by the Department would not, as you know, pay the out-of-pocket cost of the dentist rendering the service. For the rest of the dental service he requires the total fee allowed by the Department might equal thirty to forty dollars. In other words the teeth in a healthy mouth are granted a fraction of the fee that is allowed for extracting teeth and making artificial restorations. The dentist who extracts teeth and makes plates for these patients gets a small but not profitless fee while the practice of the healing art in the mouth is expected to be performed at a loss or not at all.

We make proud claims of being a branch of the healing art and in some parts of this continent progressive dentistry is definitely devoted to advancing the control and prevention of dental disease. I think the Department of Pensions and National Health should allow those dentists who are expected to provide periodontal treatments for the people under its care, a fee which will provide the dentist at least the hourly income which he receives for other phases of dental treatment.

The above remarks are not related particularly to the treatment of Colonel ----- because he can, I am sure, pay the fee if necessary. There is too, I understand, an allowance made for specialists services. My fee would ordinarily be approximately forty dollars for the services Colonel ----- requires and I would be grateful if you would let me know what portion of this amount the Department would allow.

(Signed) Chas. H. M. Williams.

"For every dollar a dentist makes working nights he will spend two dollars regaining his health."

—S. Moak, D.D.S.

"The most successful dentists are those who have learned to teach at the side of the dental chair."

DENTAL CORPS NEWS

SUPPLEMENTARY LIST OF CANADIAN DENTAL CORPS OFFICERS AS OF OCT. 31, 1944

APPOINTMENTS

Rank, Name and Date	Civilian Address
Lt. (A/Capt.) J. B. MacDonald, 23-10-44.....	Toronto, Ont.

RETIREMENTS

Rank, Name and Date	Civilian Address
Capt. N. Hurwitz, 15-9-44.....	Toronto, Ont
Capt. N. F. Gropper, 26-9-44.....	Saskatoon, Sask

PROMOTIONS ANNOUNCED SINCE 31 JULY, 1944, FOR C.D.C. OFFICERS IN CANADA

To be A/Lt.-Col.:
Major G. V. Turnbull

To be A/Majors:
Capt. P. M. Clarke
Capt. L. M. Gray
Capt. T. L. Marsh
Capt. S. M. James
Capt. D. A. King
Capt. L. H. Cameron
Capt. S. S. Small
Capt. H. J. Hocking

PROMOTIONS ANNOUNCED SINCE 1 AUGUST, 1944, FOR C.D.C. OFFICERS OVERSEAS

To be A/Majors:
Capt. A. C. Ahrens
Capt. E. C. Apps
Capt. A. H. Bernstein
Capt. T. E. Cragg
Capt. A. W. Irwin
Capt. C. M. Johnson
Capt. B. P. Kearney
Capt. A. C. Leman
Capt. H. N. MacKinnon
Capt. R. D. Reid
Capt. G. T. Walker

Dentistry at the Front

OTTAWA, Oct. 10—"The fury of battle doesn't prevent aching teeth from making their victims suffer," said Major Paul Manseau, Canadian Dental Corps, of Montreal, explaining in a sentence the simple credo that led him to operate his dental clinic closer to the fire line than had ever been done previously. For "bravery and distinguished service" as the direct result of happenings resulting from this diligence to duty, he became the second Canadian Dental Corps officer in this war to be cited in Army Orders of The Day.

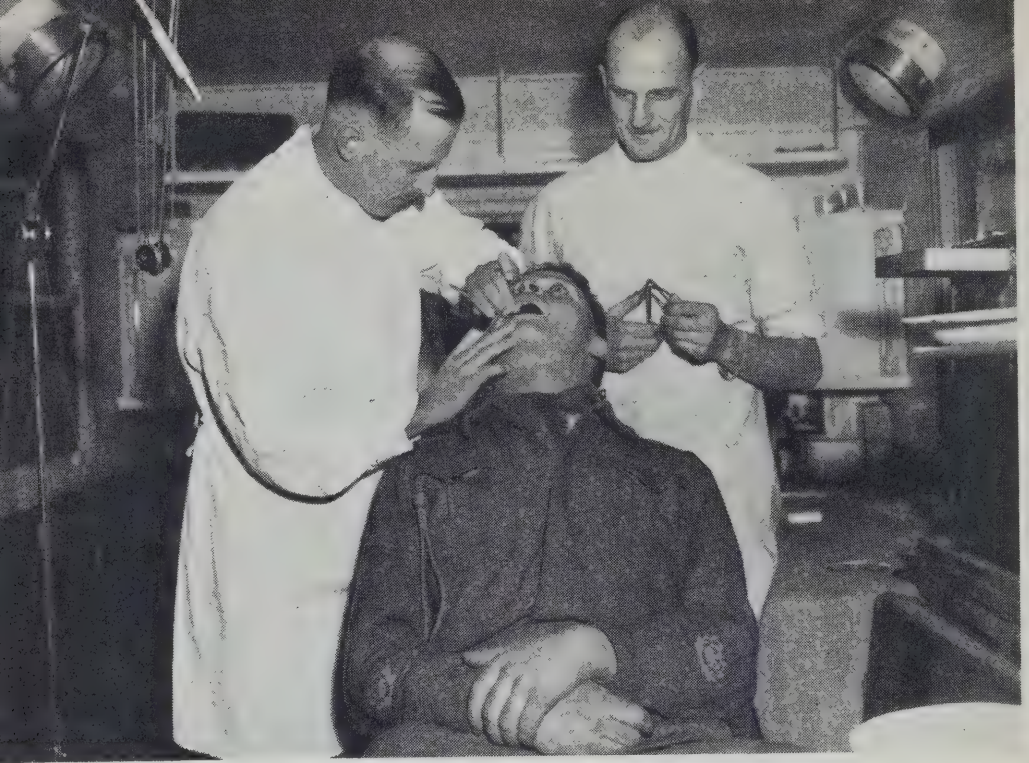
In an interview in Montreal recently, following his disembarkation leave granted on his return to Canada, Major Manseau described the incidents that led up to the action for which he was cited.

"During the Italian campaign, I was attached to the Royal 22nd Regiment. I was with those heroic chaps after the fall of Ortona, and when, shortly after they had been pulled out of the line for a brief rest and then were ordered back into action, I followed them.

"When I rejoined the unit, I was closer to the line of fire than a dentist had ever been before. I set up my office in an old house that wasn't too badly damaged by the battle. My mobile clinic, compact and complete, had all the appliances and materials for complete dental care.

"Christmas Day was an ordinary work day for me. I worked in my office with my staff—a sergeant, a corporal and a dental technician. The technician was busy; he





CANADIANS IN FRANCE

Dental work is done by Major A. C. Ahearn, Lethbridge, and Chair Assistant, Sgt. C. W. Campbell, Vancouver, in the most forward mobile dental truck of the Canadian Army. Availing himself of an opportunity to get an aching molar repaired is Sgt. Maj. T. B. Gerald MacDonald, Nelson, B.C.

operated a twenty-four hour repair service to keep in perfect repair the artificial teeth of the men in the front line.

"You know, while in action soldiers sometimes find it necessary to live for days on 'hard-tack' biscuits. These are certainly well named. Usually, they are as hard as rocks. And so, our soldiers must have excellent teeth to eat properly. I feel it necessary to follow the regiment into action—it is my own way of serving actively.

"On the 26th of December, the enemy started a powerful artillery barrage, and my poor clinic suffered a direct hit. It crumbled like a house of cards, burying in the rubble my assistants and two patients. At that moment, even though I was officially a non-combatant, I was senior officer in the camp. For the first time in my life, I had to take charge of a whole military camp.

"I organized a rescue party to search the ruins of my clinic. We extricated from the wreck my three assistants. They were quite badly wounded but after treatment for some

days they were able to return to duty. Sad to relate, the two patients in the clinic at the time—brave Royal 22nd soldiers who had succeeded in dodging enemy bullets up to that time—had been killed. And as for my equipment, it was a total loss. The soldiers didn't get any dental care for a while."

Major Paul Manseau was born at Drummondville, July, 1898. He studied at the college there and at the University of Montreal, and was graduated as a dentist in 1924. In the following years he practised at Drummondville and at Montreal.

He was appointed to the Canadian Army in 1940 and was attached to No. 4 Coy., C.D.C., at M.D. 4. He proceeded to England in January, 1941, and was promoted to his present rank while stationed there. He was attached to the Royal 22nd Regiment and followed it through the Sicilian and Italian campaigns. He is married, his wife residing at 2368 Sherbrooke St. E., Montreal. His father, J. H. Manseau, is employed with the Provincial Treasury Office at Quebec.

CANADIAN DENTAL ASSOCIATION NEWS

(FROM THE OFFICE OF THE SECRETARY)

Progress Report—Procurement, Assignment and Rehabilitation Committee

Over 25% of the questionnaires sent to the graduate dentists serving with the Armed Forces have been completed and returned. This questionnaire prepared jointly by the Department of Pensions and National Health, National Defense Headquarters and the C.D.A. Committee on Procurement, Assignment and Rehabilitation will provide information that will be helpful in the rehabilitation of dental personnel; tabulation of the information is already under way.

Looking forward to the post-war need for a greater number of qualified dental teachers, provision must be made for their training. As the facilities for graduate and post-graduate instruction is limited in Canada, it may be necessary for some dental teachers to take courses of instruction in the United States. If a course of longer duration than 20 days

is contemplated, it is necessary to obtain a Labour Exit Permit, before leaving Canada. It has recently been made possible, in certain specific cases where the applicant for a Labour Exit Permit has a definite contract with a dental school, upon recommendation of the C.D.A. Committee, to obtain permission to leave the country in order to take graduate or post-graduate instruction for a period up to a maximum of one year where such instruction is not available in Canada.

The Provincial Dental Advisory Committees continue to function efficiently in their recommendations regarding enlistment or deferment of dental personnel. As these committees have specific information regarding the dental needs of their respective province, they are also carrying on the duties in connection with the rehabilitation of discharged dental personnel.

G. V. Fisk, Chairman.

NEWS FROM THE PROVINCES

ALBERTA:

Edmonton Dental Society

This Society held its regular meeting in the MacDonald Hotel, November 7, preceded by the usual dinner at 6:30 P.M.

A large number of members, as well as members from the C.D.C., the A.D.C. and from out of town came to renew acquaintances and hear Major Rev. Bradley who has recently returned from overseas after five years service. Major Bradley spoke at length on his experiences in the C.D.A.

Dr. Alex Gemeroy, an active and popular member of the Edmonton Dental Society has been honoured, by re-election by a large vote, to the Edmonton Public School Board. Congratulations, Alex!

MANITOBA:

Two Important Resolutions

The annual business meeting of the Manitoba Dental Association was held in Winnipeg, November 20, with the President, Dr. C. D. McLeod, in the chair.

Considering the proposed provisions of the Federal Health Insurance Bill, the members were concerned as to what safeguards should be provided to protect the dental profession with regard to the handling of fractures of the jaws and other surgical operations ordinarily considered to be in the dental field. After careful consideration, the following resolution was passed unanimously:

"While we, the members of the Manitoba Dental Association, now assembled in regular session in Winnipeg, November 20, 1944, do heartily approve of the plan of the Canadian Dental Association to have children up to a given age receive first consideration under any form of Compulsory Health Insurance, we are also of the firm conviction that fractures and oral surgery in the dental field, for citizens of any age, should be included in any such Government scheme; and that this surgical service should be rendered by dentists whether in hospitals, health centres, or in the private office.

We are further of the opinion that the Canadian Dental Association should do everything possible to urge this plan upon the

Federal Government and also upon the Provincial Governments whenever its influence can be used to this end".

Dr. A. E. Proctor reported on the conference held in Ottawa, July 17 and 18 of this year. This conference was arranged by the Department of Pensions and National Defence to consider, with a committee of the Canadian Dental Association, an upward revision of the 25 year old schedule of fees for dental service for those entitled to such service at government expense.

The schedule was always considered inadequate by the dental profession. Dr. Proctor stated that the conference ended with agreement on certain fees for operative dentistry and a request to the C.D.A. to submit to the Department of Pensions and National Health a schedule for the services upon which agreement had not been reached. The Committee of the C.D.A. submitted a schedule in due course which was not adopted by the Governmental Departments but another lower set of fees was arbitrarily set by them. This schedule was duly considered by the Manitoba Association and unanimous dissatisfaction registered by the following resolution:

Resolved: "That the members of the Manitoba Dental Association now in regular session assembled emphatically deplore the action of the interested Departments at Ottawa in refusing to adopt in toto the schedule of fees for dental service submitted by the Canadian Dental Association at the request of the authorities; and respectfully suggest that immediate action be taken to reconsider the action."

ONTARIO:

St. Catharines Dental Society

The opening meeting of this society for this season was held on October 31 in the Leonard Hotel with 100% attendance. The new officers for the year are: Pres.—J. E. Longley; Secretary—Dr. J. E. Wright; and Dr. H. Burrows appointed to the Executive. President Longley named the following five members to be prepared to speak before teachers and parent teacher groups and a Collegiate Assembly: Drs. Dawe, Nelson, Down, Donnelly, and Wright.

During the meeting the members of the

Society discussed the matter of fees set by the department of Pensions and National Health at Ottawa for dental services. The Society wished to go on record as unanimously protesting the schedule as set up for members of the armed forces and those discharged from the services. Further the society reported favourably on the revised schedule of fees adopted by the Ontario Workman's Compensation Board.

Hamilton Dental Association

The second meeting of this society was held in the Royal Connaught Hotel on November 8, with Dr. Allan J. Quick presiding. Dr. Walter McFall of Kansas was the guest speaker. He gave a fine inspirational type discussion on dealing with dental service for children. Members of this active society make a point of having dinner together at every regular meeting. This engenders a fine spirit of cooperation and good fellowship among the dentists of the city and surrounding area.

Academy of Dentistry, Toronto

Dr. Harold Skilling and his executive officers have demonstrated a sincere effort to bring to Toronto dentists an interesting program for the current year. The Annual Dinner held at the Royal York Hotel on October 18 was well attended to hear Rev. Norman Rawson of Hamilton who returned from England only a few days before. Dr. Rawson held his audience in a spell of oratory mixed with drama, emotion, and humour as he described some of his experiences in England and France. A delegation of Hamilton dentists including Dr. F. L. Williamson, President of the Ontario Dental Association were guests of the Academy. Dr. Walter McFall of Kansas read a paper making a plea for greater interest in dental service for children. The speaker is well known among the outstanding leaders on this continent for his interest in Dentistry for Children. His address was instructive and entertaining because he possesses plenty of humour which, expressed with his southern accent keeps his hearers ever on the alert. The theme of the discus-

sion was "Prevention in Dentistry" and "Where" said he, "can prevention begin except it be with little children?" "Prevention in dentistry may be defined as those efforts which are made to maintain normal development and physiological function. . ." Viewed in a broad sense, nearly all oral health services are preventive in that they arrest pathological processes and developing disorders and deficiencies.

Dr. E. A. White, chairman of the Academy's Public Dental Health Committee, announced that a public speaking class is being conducted this fall and winter. Every Toronto dentist interested is invited to participate. President Skilling entertained a motion sponsored by Dr. Colton Bliss whereby every dentist residing in Toronto who had practised for 50 years should receive an honorary life membership in the Academy.

Ontario Dental Nurses' and Assistants' Association

Patriotic Donators and Knitters Club:

The patients at the Red Chevron Home of the Christie Street Military Hospital have been "adopted" by the P.D.K.C. and they have enjoyed two visits from members under the leadership of Leta Blaber, War Convener and Irene Bruce, Provincial President. Chocolate bars, cookies, cakes, a word of cheer and a smile were left with each patient and it did our hearts good to see each face light up as we approached the bed. Fifty-one Christmas parcels have been mailed to the servicemen overseas. Mr. Gordon Steele, chairman of the Canadian Ex-Servicemen's Association writes from England:

Dear Mrs. Blaber:

Our greatest thanks to the members of the P.D.K.C. for the wonderful parcels of comforts just received by the Canadian Ex-Servicemen's Association.

Already, we have been able to contact boys back from Italy and Normandy and I assure you, the comforts of your gifts give the wounded lads a real "lift up". "Made in Canada" is a tonic to all Canadian servicemen, and the lads in Italy and France are not letting us down. . .they are doing a magnificent job. I am hoping once Jerry



ALLAN J. QUICK, D.D.S.
President, Hamilton Dental Association

gets a few more knocks, we will soon see "fnish" to the "Hun". What a day that will be!

No. 10 Canadian Hospital is now in France. No. 2 is taking its place. . .our members and the Ladies' Auxiliary are carrying on as conveners for the new unit supported by the Canadian Red Cross, and all concerned are grateful for the help received from your Club.

Cheerio everybody,
GORDON STEELE.

Toronto Affiliated Association

Mr. William McTavish addressed the third general meeting on November 6 on "The Care of Dental Instruments". His talk emphasized the care of the handpiece particularly. As this is the most important instrument in every dental office, we were all keenly interested in the subject. We were pleased to welcome nine visitors at this meeting.

HAMILTON AFFILIATED ASSOCIATION: Miss Louise Oblender of the Alma-Lou Flower Shop assisted by Mrs. Alma Graham and Mrs. Thornton spoke to our members on the care and arrangement of flowers. The details of each arrangement were demonstrated and some of the lovely bouquets were presented to us. The flowers were raffled and raised \$6.00 for our Treasury.

The retiring President, Mrs. Lucile Ryder, was presented with a beautiful set of silver and crystal coasters.

LONDON AFFILIATED ASSOCIATION: The London dental nurses and assistants met and enjoyed dinner together preceding the meeting on November 1. Mr. O. Hayden's interesting talk dealt with the history of chinaware.

WINDSOR AFFILIATED ASSOCIATION: Miss Dorothy Bailey presided at the October meeting which was in the form of a Round Table Discussion on Parliamentary Procedure, led by Mrs. Gordon Kerr.

BRANTFORD AFFILIATED ASSOCIATION: The opening meeting of the Brantford Affiliated Association was held on October 26. Mr. P. J. Harvey's subject was: "Collections in a Dental Office". . . a subject of vital interest to every member present.

ARLENE JEMISON CREENY.

Toronto Study Club of Dental Technicians

At the first regular meeting of the Toronto Study Club for the year 1944-45, held in the Royal York Hotel on October 11, the following officers were elected:

President	W. Walker
Vice President	J. Price
Secretary	H. Posen
Recording Secretary	J. E. Washbrook
Treasurer	C. H. Mellish
Past President	C. E. Spence

Also an executive committee of five members.

The meeting proved to be an outstanding one. The Clinician, Major Shenton, presented a practical and educational clinic, dealing particularly with Acrylics, and ways of

correcting their bad behaviour. Major Shenton is to be congratulated on the work he has done in this respect and is an outstanding technician in every way.

Major Shenton is in charge of the laboratory at the Canadian Dental Training Centre, Toronto, and is, to my knowledge, the only technician to reach the rank of Major in the Canadian Army.

Mr. C. L. Daly, affectionately known among us as the Dean of Dental Technicians, was the very pleased and surprised recipient of a life membership in the Study Club, and a beautifully framed scroll, attesting to his craftsmanship and wisdom, so generously given to all who ask. Mr. W. (Bill) Allen, who made the presentation, spoke of their years of friendship and of the fine impression Mr. Daly left upon all with whom he came in contact.

Mr. David (Rolly) Rollaston was presented with a fine leather brief case, a gift from the club on his retiring as secretary, a position he has held for the past six years.

May we say thanks again to one who has worked so hard for the club.

C. E. SPENCE.

Members of the Board of the Royal College of Dental Surgeons of Ontario, All Returned by Acclamation

The members of the 1942-44 Board have been justly honoured by returning them to office by acclamation. Many problems have faced our profession in the past term and even greater problems confront it in the future. Dentists in Ontario are fortunate indeed to be represented by such a group of conscientious, unselfish and hardworking colleagues imbued with a high degree of fairness to all.

It is rather notable that the Board was elected by acclamation this year. The first election of the Board of the Royal College of Dental Surgeons was held on June 2, 1868 and ever since that time a biennial election has been held. This is the first occasion in the history of this Board that all members have been elected by acclamation.

Those elected to the new Board follow: Dr. E. W. Paul, Toronto; Dr. S. W. Bradley, Ottawa; Dr. S. J. Phillips, Oshawa; Dr. F. A. Blatchford, Fort William; Dr. H. W.

Reid, Toronto; Dr. G. H. Campbell, Orangeville; Dr. J. F. Griffen, London; Dr. J. E. Amos, Brantford; and Dr. H. L. Field, Hamilton.

Academy of Dentistry, Toronto Winter Clinic

"If I were a dentist," said Rev. W. Harold Young, D.D., "I would try to have some time for the lovely things of life and for the homey things of life." Thus did the talented luncheon speaker strike a most timely note before an assembly of some 560 Toronto dentists and guests from many points in Ontario. He quoted Robert Louis Stevenson—"perpetual devotion to what a man calls his business is only to be maintained by perpetual neglect of other things and it is by no means certain that what a man calls his business is the most important." Cultural attainments add much to life and a happy relationship between father and son, parents and children rank higher in living than professional and financial success. Dr. Young continued to the climax of his address, "If I were a dentist too, I would strive to hear above the din of the world about, the cry of human need." This, he illustrated by a lovely story of chivalry, which indicated the satisfaction gained in doing things prompted by our highest motives.

The whole day was full of activity, morning, afternoon and evening. Dr. Harold Swales and his committee are to be commended for the fine arrangements, even to the last detail. President Harold Skilling in his brief remarks said he felt this feature of the Toronto Academy was becoming ever more popular because it was filling a need. There were 102 dentists present from out of town, some of them taking part in the proceedings of the day. There were quite a number of dental nurses and dental assistants present, many contributing to the program. Miss Mary McCollum, a talented singer, was guest soloist at the luncheon meeting; others of the group took part in table demonstrations which were particularly interesting. The dental trades too, as usual, were on hand with what new materials and new equipment could be brought in, in these days of extreme scarcity. Dental technicians attended as mem-

bers of the Toronto Study Club of Dental Technicians. From the program provided, it is hardly probable that anyone went away without one idea that made it worth while to attend.

After the evening dinner, a period of enjoyable entertainment was provided for relaxation. Sergeant "Hal" Shaw of the Toronto Citizens Committee brought five young ladies from a group of entertainers who go about entertaining troops in training in the various military camps. In this connection, it might be mentioned that these artists have given 2240 shows before two million boys in training and have travelled approximately 149,000 miles. The representatives from this company of entertainers who appeared at the Academy of Dentistry dinner party were: Miss Dorothy Bromly, accompanist, Miss Marjorie Waters, personality girl, Miss Nancy McCaig, accordionist, Miss Muriel Kilby, zylophonist and Miss Zena Cheevers, dancer. The entertainment was of a high class and a great credit to the young performers and their sponsors.

If success in achievement is a satisfaction, certainly the members of the Academy Council, and Dr. Swales and his committee in particular should be highly satisfied and justly proud of the day.

QUEBEC:

University of Montreal

Dean Ernest Charron and the Dental Faculty of the University of Montreal were hosts in their new building to the Montreal Dental Club members for their October meeting. Msgr. Olivier Maurault, Rector of the University, in welcoming the guests, spoke briefly in French and English. Dean Charron personally conducted the tour explaining details of teaching methods and the features of the new and modern building and equipment. Dr. L. Adolph Archeveque of the Department of Diagnosis accompanied the gathering and assisted the Dean. In turn, the various departments were visited, including Orthodontia under Dr. Paul Geoffrion, Vice Dean; Operative Dentistry under Dr. J. A. Renaud, Secretary of the Faculty; Prosthetic Dentistry under Dr. Gabriel Lord; Crown and Bridge-work under Dr. Theo. Cote; Pedodontia and

Periodontia under Dr. J. Lane Charpentier and Oral Pathology under Dr. Gerald Racy. Dr. Gustave Gauthier is Assistant Director of Studies. Dr. Reg Winn, President of the Montreal Dental Club expressed the thanks of the members and wished the Dean and his Faculty every success in their new environment.

Montreal Dental Club Convention

The Twentieth Annual Fall Clinic and sixth wartime clinic of the Montreal Dental Club was held in Montreal the latter part of October and was a great success from every angle. The Committee in charge felt that with the enormous burden being placed on the health professions both physically and mentally on account of the large number of members serving in the Armed Forces, that those still in civilian practice should be prepared to render the most efficient service possible.

The following outstanding lecturers and clinicians took part: Dr. Ernest R. Granger of Mount Vernon, N.Y., on Oral Diagnosis; Dr. Ralph F. Sommer of Ann Arbor, Mich., on Root Canal Therapy; Dr. Reed O. Dingman of Ann Arbor, Mich., on Oral Surgery; Lieut-Col. W. J. Gibson and Major J. C. Foote of the C.D.C. Technical Training Centre on Rubber Dam; Major W. J. Linghorne of the Canadian Dental Corps on Periodontia; Dr. Stewart A. McGregor of Toronto on Dentistry for Children.

The table clinics on the opening morning of the Convention were presented by members of the teaching staff of the Faculty of Dentistry, University of Montreal and members of the Société Dentaire de Montréal. These clinics were carefully prepared and very well received.

The three luncheon meetings were addressed by Dr. F. Cyril James, Principal and Vice Chancellor of McGill University on "Canadian Reconstruction"; Dr. Ashley W. Lindsay, Dean of Dentistry, West China Union University on "Dental Education in China" and Dr. D. P. Mowry, President of the College of Dental Surgeons of the Province of Quebec on "Problems Facing the Profession at the Present Time". Dr. Mowry raised considerable controversy over the statement that it was about time that some of the older dentists in the Dental Corps should be permitted to return to private practice, considering all the conditions involved.

The Commercial Exhibits were of a high order and were well attended.

Once again great credit for the success of this meeting goes to the Chairman of the Executive, Dr. M. L. Donigan who for many years has undertaken the management of this outstanding Canadian Dental Convention. Dr. A. R. Winn and his capable Executive must also receive congratulations for their part in the splendid team work which must have been necessary to produce such a complete and satisfactory program.

M.H.G.

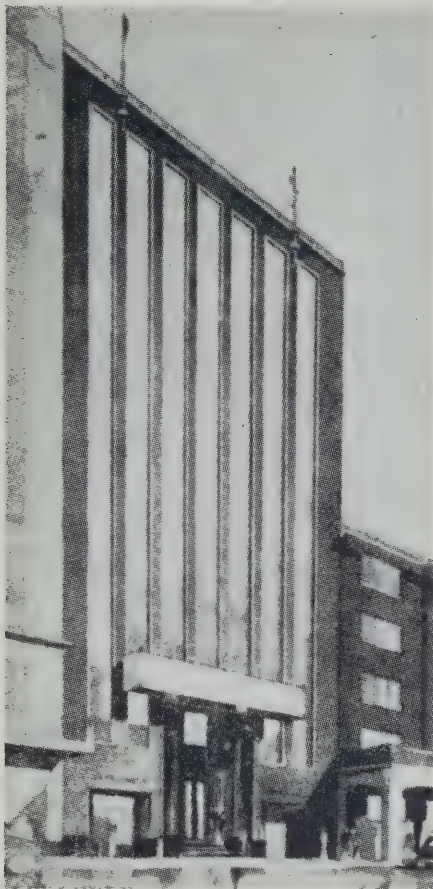
GENERAL NEWS

Events at Annual Meeting of the American Dental Association, Chicago, October 16-18.

The Eighty-Sixth Annual Meeting of the American Dental Association, limited to the transaction of business affairs because of the wartime restrictions on travel, was held in Chicago, October 16-18, with an attendance of approximately 500 Officers, Trustees, Delegates, Alternates and committee members. The House of Delegates, moreover, took no definite action to provide a full meeting next year, but authorized the Board of Trustees to take the

proper action under circumstances connected with the progress of the war.

Much of the discussion during the meeting, in the House of Delegates and in the Board of Trustees, centered around problems growing out of the war. Considerable emphasis was also placed on postwar planning with special regard for those provisions that will have an effect on returning dental officers. The House of Delegates approved the plans of various committees and councils for aiding veteran dental officers in reestablishing themselves in practice.



Coronation Dental Infirmary
Johannesburg, South Africa.

Sterling V. Mead, Washington, D.C., was named President-Elect by the House of Delegates without contest. He succeeds Walter H. Scherer, Houston, in that office.

The total membership as of June 30, 1944 was 58,104.

The amount subscribed to the Relief Fund from the sale of Christmas Seals at June 30, 1944 was \$36,716.22, which is \$4,219.30 in excess of the previous year.

The Treasurer's Report stated that the assets have increased \$140,960.23 over the previous year and now total \$1,715,125.10.

The total income for general purposes was \$549,344.32, which represents an increase over the preceding year of \$85,589.56.

The total expense for general purposes was

\$413,575.04, an increase of \$10,867.75 over the previous year.

The excess of general income over expenses for the year was \$135,769.28.

Hope for Penicillin Cure of Rheumatic Fever Fades

Hope that penicillin might prove effective as a remedy for the acute stage of rheumatic fever gets a severe setback from two reports. (Journal, American Medical Association, Sept. 30.)

From the U.S. Navy Research Unit at the Hospital of the Rockefeller Institute for Medical Research in New York, Lieut. Comdr. Robert F. Watson, Dr. Sidney Rothbard and Dr. Homer F. Swift report:

"Penicillin in doses ranging from 1,975,000 to 3,470,000 Oxford units given over a two-week period to eight young adults with acute rheumatic fever apparently failed to alter the course of their disease."

Even more discouraging is the report of six Army officers working under the Army Air Forces Rheumatic Fever Control Program. They tried penicillin in 38 cases of rheumatic fever at Army Air Force installations and found that it not only failed to help the patients but in some cases made the course of the sickness worse.

From Science News Letter, Oct. 14, '44.
per A. D. A. Bul.

Military Affairs Committee Program of The Cleveland Dental Society

This Committee feels that their Society should be prepared with a definite program to promptly recognize the return to civilian life and practice of their members who have served with the Armed Forces. The Committee feels that its efforts should be directed towards things which the Government cannot provide and which will make the returning service members feel that they have not been forgotten.

The Committee proposes that a fund of \$10,000.00 be raised by adding \$15.00 to the dues of each *Active* member for the year 1945. It is proposed that with the \$10,000.00 the following program can be carried out:

1. One full year's Active membership in the Society for each returning service member.

2. All Extension or Refresher courses put on by the Society shall be made available at no cost to the service member, for one full year after his return.

3. A suitable honour roll or plaque shall be provided containing the name of each service member.

4. A biographical record, probably in book form, shall be made up containing the complete service record of each member, along with a photograph in uniform, if possible.

5. The Committee recommends that a suitable dinner and recognition service be arranged

as soon after the war as practicable—that is after all members have returned.

Loyola Medical and Dental Clinics Well Attended

The sponsors of the first annual Loyola medical and dental clinics are pleased with the response and interest which this unique program received. These clinics were designed to bring medical and dental practitioners together to discuss problems of mutual interest. They were held at the Stevens Hotel, October 13 and 14 and some forty subjects were discussed. Nearly four hundred registered for the clinics; a number were from out of town. The ratio of physicians to dentists was about 55 to 45.

IN MEMORIAM

M. A. McLaren of New Westminster, B.C., died October 16. He was born and educated at Clearwater, Manitoba and practised his profession in the province until forced to retire on account of ill health. He was very well known in western Manitoba as a fine dentist and an outstanding athlete.

Dr. McLaren is survived by his widow and six daughters.

order and of the Ancient and Accepted Scottish Rite, a member of the Presbyterian Church and active in many community organizations.

Dr. Lederman is survived by his widow, two sons, Dr. J. M. Lederman of Winnipeg, and Captain W. R. Lederman serving with the R.C.A. overseas, also a brother and two sisters.

Ralph Lederman of Winnipeg, Manitoba, aged 66, died November 1. He was graduated from the Royal College of Dental Surgeons of Ontario and practised dentistry at Milverton, Ontario, until 1913, when he moved to Regina. He practised his profession in Regina until four years ago when ill health forced him to retire and since then he has resided in Winnipeg.

He was a life member of the Masonic

R. Erskine Robertson of Collingwood, Ontario, aged 29, died on November 9.

He was graduated from the Faculty of Dentistry, University of Toronto in 1939 and immediately began to practise with his father, Dr. R. E. Robertson.

Dr. Robertson was a member of the Masonic Order and of the Xi Psi Phi Fraternity.

He is survived by his widow and father.

... SECTION FRANÇAISE ...

Comité de Rédaction

Président

Paul Geoffrion, B.A., D.D.S., A.I.D.O., F.I.C.D.

Assistant

Armand Fortier, D.D.S.

Conrad Archambault, D.D.S.

Gabriel Lord, D.D.S.

Albert E. Surprenant, D.D.S.

Correspondants

Y. Lafleur, D.D.S., St-Hyacinthe

V. Plamondon, D.D.S., M.Sc.D., Québec

C. Godin, D.D.S., Trois-Rivières

I. Frappier, D.D.S., Valleyfield

E. Laurin, D.D.S., Hull

A. Thérien, D.D.S., Shawinigan

A. Massicotte, L.C.D., Chicoutimi

V. Olivier, D.D.S., Sherbrooke

O. Desrosiers, D.D.S., St-Pascal

E. Venne, D.D.S., Grand-Mère

REDACTEUR

ALCIDE THIBAUDEAU, D.D.S., A.I.D.O.

516, est, rue Sherbrooke, Montréal.

EDITORIAL

Souhaits pour 1945

La vie passe avec une telle rapidité que les esprits les plus réfléchis, les plus conscients des réalités d'ici-bas n'osent pas y penser trop sérieusement et trop longtemps, de crainte d'être effrayés. Nos illusions en effet tiennent tant de place dans notre existence. Je n'ose pas relire mes éditoriaux des cinq dernières années tant j'ai peur d'y trouver de mélancolie et de tristesse, tant aussi je les crois imprégnés des pensées qui depuis cinq ans ont quasi brûlé tous les cerveaux humains.

Non, tâchons d'oublier les longues angoisses du passé et tournons vers l'avenir nos yeux suppliants. Ce ne sera pas en vain, car enfin sous l'horizon apparaît une ligne bleue capable de faire naître la plus enivrante des espérances: la Paix. Oui la paix, seul souhait qu'un homme de coeur et d'esprit peut formuler pour l'humanité.

Bientôt les belligérants cesseront de s'entretuer, puissions-nous de notre côté chasser de nos esprits les pensées qui nous divisent, pour écouter dans une joie commune les carillons de la paix et de la vie qui va recommencer.

La Rédaction

L'Angine de Vincent

Travail présenté par le CAPT. PATRICK LEAHY, Corps Dentaire Canadien, devant la Société médicale du Camp militaire de Valcartier, à la séance du 15 décembre 1943

Monsieur le Président,

Mesdemoiselles, Messieurs:

On m'a demandé, à la dernière séance de cette Société, de me préparer à vous dire quelques mots sur l'Angine de Vincent. J'ai fait ce que j'ai pu et j'espère que je ne vous ennuierais pas trop. Je ne donnerai pas de références, car les quelques idées que je vais vous exposer sont depuis longtemps du domaine public et se trouvent dans tous les bons manuels.

SYMPTOMES:

L'Angine de Vincent, lorsqu'elle se localise à la bouche, affecte surtout les gencives. On l'appelle alors "Trench Mouth", stomatite ulcéreuse, gingivite de Vincent, gingivite ulcéro-membraneuse.

Ce dernier terme a été suggéré par le docteur Grieses. Il est de plus en plus employé car il décrit bien l'état des gencives au stage aigu de la maladie.

La gingivite ulcéro-membraneuse débute soudainement. Le premier stage caractérisé par une irritation de la muqueuse, un goût métallique et un gonflement douloureux des gencives, ne dure que de 24 à 48 heures.

L'état aigu apparaît alors. Il se forme des ulcères de forme irrégulière, à bords nets, légèrement déprimés et couverts d'une membrane grisâtre qui s'enlève facilement, découvrant le fond de l'ulcère qui est rouge vif et saigne facilement.

Cette lésion apparaît le plus souvent là où le bord détaché d'une gencive en inflammation forme, avec la surface d'une dent, une crevasse où se développent, à l'abri de l'air, les bactéries anaérobies.

Le feuillet gingival qui recouvre à demi une troisième molaire en éruption, la papille qui sépare les deux incisives centrales du haut, les points d'irritation mécanique due à une obturation surplombante, à une couronne mal ajustée ou à un crochet de dentier partiel, sont tous des endroits de prédilection.

Le troisième symptôme est l'odeur particulièrement désagréable qui accompagne cette sorte de nécrose.

Les tissus affectés sont très sensibles; le patient ne peut se brosser les dents et ne mange que difficilement. Les aliments fortement assaisonnés occasionnent des brûlements.

Les gencives sont gonflées, se détachent du collet de la dent et saignent facilement au toucher.

La sécrétion de la salive est très augmentée.

Le patient se sent déprimé, fait un peu de fièvre—100 ou 101. Sa digestion peut être affectée.

Enfin, les ganglions sous-maxillaires, plus rarement les ganglions cervicaux, augmentent de volume et sont douloureux au toucher. Ils ne suppurent jamais cependant.

La formule leucocytaire n'est pas affectée par l'Angine de Vincent, et soit dit en passant, c'est là un point important dans le diagnostic différentiel.

L'infection de Vincent, chez certains sujets, s'accompagne d'éruptions cutanées.

DIAGNOSTIC DIFFÉRENTIEL

La gingivite de Vincent est ordinairement facile à reconnaître. On la confond parfois avec une autre gingivite ulcéreuse qui débute soudainement et se manifeste par

la formation d'ulcères couverts d'un exsudat fibreux adhérent. On différencie cette deuxième gingivite de la première par le fait qu'elle ne se localise pas comme l'autre au sommet des papilles gingivales, et aussi parce qu'elle ne rend pas l'haleine fétide. Enfin, on ne trouve pas de bacille fusiforme dans les lésions, ou on en trouve très peu.

Il paraît que cette gingivite est due au diplocoque Grampositif.

La gingivite de Vincent peut devenir chronique. Elle perd alors ses symptômes caractéristiques et on la confond alors avec toutes sortes de gingivites dues à des facteurs constitutionnels ou à l'irritation locale d'origine mécanique chimique ou nécrobiennne.

En particulier, elle se distingue mal des gingivites à streptocoques.

L'examen bactériologique est souvent le seul moyen de se tirer d'embarras.

ETIOLOGIE

Le *Borelia Vincenti* et le *fusiformis dentium*, ce sont là les noms officiels des deux microbes qui nous intéressent. On les appelle aussi "Bacille fusiforme" et "Spirille de Vincent et de Plant".

Le *Borelia Vincenti* est un spirille plus gros que le tréponème de schaudin.

Il est aussi plus pâle et plus rapide. Son mouvement a un caractère différent de celui du Tréponème. Il avance en tournant sur lui-même comme un tire-bouchon, alors que l'autre a un mouvement ondulatoire.

Il est gram-positif et se colore un peu avec les teintures basiques.

Le bacille fusiforme est un bâtonnet à bouts effilés, légèrement recourbés. Il est parfois cerclé de bandes incolores. Il est immobile et on le considère généralement comme non sporulé. Il est gram-négatif et prend les colorants basiques.

Il y a plus de cinquante ans qu'on a fait la corrélation entre la présence de ces deux organismes et celle des lésions de l'Angine de Vincent, mais on n'est pas encore parvenu à déterminer de façon certaine le rôle qu'ils jouent dans cette affection.

On les trouve dans la bouche de plus de 50% des personnes en santé, ce qui rend l'interprétation des examens bactériologiques assez délicate. Il reste tout de même que l'absence totale du spirille ou du bacille exclut complètement la possibilité de l'Angine de Vincent.

Ceux qui considèrent le bacille fusiforme et le *Borelia Vincenti* comme l'agent causal de la maladie, disent qu'ils sont ordinairement saprophytes et que des changements de milieu peuvent les rendre pathogènes. De fait, l'incidence de la gingivite est beaucoup plus élevée chez les gens dont l'hygiène buccale laisse à désirer.

Comme autres causes prédisposantes, il faut mentionner l'abus du tabac, les carences de vitamine C ou du complexe de vitamine B.

Un bactériologiste du nom de Smith croit que la virulence du spirille et du bacille dépend de la présence en symbiose d'un nibrion et d'un streptocoque anaérobie.

La contagion expérimentale de l'Angine de Vincent, à l'aide de culture, est difficile.

Les cultures pures de *Borelia Vincenti* ou de *Fusiformis dentium* produisent peu de réaction chez les animaux de laboratoire. Les cultures mixtes produisent des abcès gangreneux, mais on n'est pas encore parvenu, je crois, à reproduire les lésions caractéristiques de l'Angine de Vincent.

Certains en concluent que leur présence n'est qu'accidentelle à la maladie. Ces deux germes ne seraient que des parasites qui envahissent les tissus affaiblis et détruits par une autre cause et y trouvent un milieu propice à leur développement.

Quel que soit le rôle du *Borelia Vincenti* et du *Fusiforme dentium*, leur présence en grand nombre dans une lésion buccale, et leur prépondérance numérique sur les

autres causes possibles de cette lésion, vous font connaître le nom de l'affection et vous indiquent la marche à suivre dans son traitement.

LES TRAITEMENTS

Les traitements sont nombreux. Plusieurs doivent leur effet à la libération d'oxygène et ils sont efficaces.

Le peroxyde d'hydrogène s'emploie beaucoup. On l'applique sur les ulcères avec un morceau de coton et on en envoie entre les dents à l'aide d'une seringue.

Une autre médication oxygénée consiste à assécher les gencives et les ulcères, à les badigeonner d'acide chromique à 100% et à neutraliser cet acide avec une pâte de perborate de sodium et d'eau. C'est un traitement que les dentistes de l'armée emploient fréquemment, et il donne ordinairement de bons résultats.

Certaines teintures appliquées après assèchement des tissus sont souvent efficaces. Tel le Mercurochrome à 5% et le bleu de méthylène qui agit bien lorsqu'on a affaire à une infection complexe, s'il y a des streptocoques, par exemple.

Beaucoup considèrent le Sulfarsphenamine comme un véritable spécifique. On le mélange à de la glycérine et on l'applique localement.

Le Dr Box de l'Université de Toronto recommande le traitement suivant: "Badigeonner les tissus affectés avec de la teinture d'iode Churchill et appliquer ensuite une solution aqueuse de nitrate d'argent à 35%."

C'est le traitement de choix dans les cas les plus avancés, là où il y a beaucoup de destruction. Les tissus nécrosés deviennent imprégnés d'un précipité d'iodure d'argent et se transforment en une sorte de pansement antiseptique qui se détache avant 24 heures.

L'inflammation et la douleur diminuent très rapidement sous l'effet de ce traitement.

Quand un des traitements que je viens de mentionner ne donne pas de résultat, il faut aussitôt en essayer un autre. On est souvent agréablement surpris de voir la situation s'améliorer très rapidement.

Il vaut mieux ne pas continuer un même traitement pendant longtemps. Après sept ou huit applications quotidiennes efficaces, il arrive qu'un remède semble perdre ses propriétés. Peut-être les microbes s'y habituent-ils? En tous cas, un changement de médicament ou simplement l'interruption temporaire du traitement ont souvent un effet très favorable.

On supplémente les traitements locaux par une légère purgation et une alimentation riche en vitamines C et B. On recommande au patient de se reposer.

Lorsque tout cela ne nous donne pas les résultats attendus, il nous reste à confier le patient à l'hôpital. A l'hôpital du camp, on emploie ordinairement le sulfathiazole donné par la bouche et les résultats sont excellents. Vous savez cela mieux que moi.

Pour terminer, je vais vous lire une traduction rapide d'un fragment d'article tiré du "*Journal of American Medical Association*" de juin 1943, publié par "*Dental Items of Interest*" en novembre '43 et qui se lit comme suit:

"Johnson donna de 25-50 mg. de niacin trois fois par jour à des adultes, et 10 mg. à des enfants qui faisaient de l'Angine de Vincent. Les résultats les plus éclatants furent obtenus dans les cas aigus.

"Un cas typique est celui d'une jeune fille de 17 ans qui avait des ulcères du pharynx, une adéropathie cervicale et 103° de fièvre. Un prélèvement révéla la présence de nombreux microbes de Vincent.—L'administration, chaque jour, de

trois doses de 25 mg. de niacin, amena en 48 heures la disparition des ulcères et le retour à la normale de la température. Un prélèvement fait cinq jours plus tard donna un résultat négatif.

"On a trouvé le niacin utile dans les manifestations aiguës de la maladie au niveau des gencives.

"L'usage de ce médicament semble garder la bouche plus propre et retarder la formation du tartre ordinaire. On l'a trouvé très utile dans les cas de pyorrhée alvéolaire".

Ce petit bout d'article laisse entrevoir un nouveau traitement. Puisse-t-il être assez efficace pour être le dernier.

Capt. PATRICK LEAHY, C.D.C.

Evolution sans progrès

A l'heure où l'on parle de programmes nouveaux, d'études et d'orientations nouvelles; où l'on voit presque tous les cervaux humains bouillir comme des marmites prêtes à renverser; ne serait-il pas temps de crier: s'il vous plaît Messieurs reprenons équilibre, prenons le temps de réfléchir et de penser en philosophes.

Plutôt que de nous laisser éblouir par des mots pompeux et d'apparence savante: laboratoire, analyse, vitamino-thérapie, bio-chimie etc. . . etc. . . , ne soyons pas comme ce voyageur du désert qui n'ayant pas bu depuis trois jours, trouve un puits et s'y précipite au lieu d'en tirer l'eau nécessaire à étancher sa soif. Toutes les nouvelles théories ont du bon, peut-être serions-nous mieux de chercher lentement et sagement ce qui dans tout cela pourrait nous être vraiment utile plutôt que de vouloir jeter tout le passé aux oubliettes pour nous lancer tête baissée sur une route inconnue.

Nous publions à dessin trois histoires de cas déjà vieilles, on le verra, et peut-être penserons-nous qu'il vaut mieux ne pas tenter d'évolution sans progrès.

Ostéite Hypertrophiante Localisée

DES MAXILLAIRES

Considérations pathogéniques

Par M. DECHAUME

La question des ostéites hypertrophiantes est encore controversée. Elles sont d'autre part si peu fréquentes qu'il est toujours intéressant de rapporter des faits nouveaux.

Voici 3 observations qui semblent éclairer d'un jour particulier la pathogénie de ces lésions:

OBSERVATION 1.—Mme P . . . , 34 ans, nous est confiée en Juin 1932 par M. Chifoliau pour une ostéite fibreuse du maxillaire supérieur gauche.

C'est en 1927, après l'extraction de la deuxième prémolaire supérieure gauche (gangrène pulpaire ou périapexite chronique réchauffée) qu'elle aurait constaté, pour la première fois, dans la région apicale de la canine supérieure gauche, une tuméfaction diffuse sans aucun signe fonctionnel.

En 1928, elle se décide à consulter un spécialiste qui, par une ponction, aurait retiré un liquide clair et conseillé l'intervention. Celle-ci est pratiquée, en Février 1928, sous anesthésie locale, à la gouge et au maillet (nous n'avons pas pu avoir d'autres renseignements). La cicatrisation se fait en un mois. Mais la tuméfaction ne disparaît pas.

En Novembre 1931, cette tuméfaction semble épaissir la voûte palatine à gauche. Depuis, elle n'a subi aucun changement.

D'autre part, la malade accuse depuis peu des douleurs névralgiques assez fréquentes, spontanées, plutôt nocturnes, diffusant dans le maxillaire supérieur et une certaine gêne à ouvrir la bouche.

A l'examen, en Juin 1932, on est frappé par l'existence d'une asymétrie faciale du fait d'une saillie très marquée de la région génienne gauche en arrière de l'aile du nez. Les téguments ont conservé un aspect normal. Il n'y a pas de zone d'anesthésie, pas d'adénopathie.

L'ouverture de la bouche est sensiblement normale. Elle permet immédiatement de constater une hypertrophie diffuse du maxillaire supérieur gauche, vestibulaire et palatine, depuis la région de la tubérosité jusqu'à la ligne médiane.

Toutes les dents, sur cette hémia arcade supérieure gauche, en dehors de la deuxième prémolaire qui a été extraite, sont saines et solidement implantées. Elles articulent correctement et normalement avec leurs antagonistes. Leurs réactions thermiques sont normales.

La muqueuse gingivale est saine. On retrouve la cicatrice à peine déprimée, rectiligne, de l'ancienne intervention. A la palpation, qui n'est pas douloureuse, l'os apparaît de consistance uniforme: il n'y a aucun point fluctuant, aucune zone avec sensation de crépitation parcheminée.

Les examens du sinus et du nez sont négatifs.

Les radiographies montrent, du côté gauche, des lésions osseuses dont le maximum se trouve dans les régions prémolaire, canine et incisive. Elles débordent très peu sur la ligne médiane. Elles se caractérisent par un aspect floconneux de l'os, c'est-à-dire par des zones de décalcification extrêmement irrégulières, entourant des zones non moins irrégulières de condensation normale. Un tel aspect rappelle aussi bien l'ostéite fibreuse qu'un processus d'ostéite diffuse avec tendance à la séquestration.

L'examen du squelette est négatif. La radiographie du crâne ne montre aucune anomalie.

L'interrogatoire ne révèle rien d'anormal dans les antécédents. Mariée, elle n'a eu ni enfant ni fausse couche. Elle a été opérée en 1926: appendicectomie et castration unilatérale droite. Depuis six mois, les règles sont plus fréquentes (toutes les trois semaines), mais moins abondantes. Elle accuse, en outre, un peu d'éréthisme cardiaque et un léger amaigrissement 3 kilogr. (elle pèse 53 kilogr.).

L'examen de sang donne:

Hématies, 4.200.000; leucocytes, 8.400; polynucléaires neutrophiles, 31,5; polynucléaires basophiles, 0; polynucléaires éosinophiles, 0,5;

Mononucléaires grands, 8; mononucléaires moyens, 40; lymphocytes, 20.

Temps de saignement, cinq minutes. Temps de coagulation (sur lames), quinze minutes.

Calcémie, 0 gr. 960. donc hypocalcémie.

Wassermann négatif.

Le 20 Juin, une biopsie est faite sous anesthésie locale. Après incision vestibulaire, le périoste est ruginé. A la gouge, un fragment osseux est facilement excisé. Sous une coque osseuse assez mince, on trouve immédiatement un tissu médullaire ramoin rougeâtre.

Un fragment est confié à M. Oberling qui répond:

Lésions d'ostéite chronique avec remaniement osseux, moelle fibreuse et nombreux myéloplaxes. *En somme, c'est l'aspect d'une ostéite chronique banale*, plutôt que celui de l'ostéite fibreuse type Recklinghausen.

Un deuxième fragment est confié à Mlle H. Dobkevitch (laboratoire de M. Civatte) qui donne le compte rendu suivant:

Les coupes montrent un tissu osseux à lamelles petites et mal calcifiées. La moelle normale est remplacée par un tissu fibreux dense, dans lequel on reconnaît la présence de quelques myéloplaxes. Il s'agit, en effet, d'une *ostéite fibreuse d'un type très voisin de la tumeur à myéloplaxes*.

Le 23 Juillet 1932, la malade s'absente pour un mois. Nous lui prescrivons:

1° Six injections intramusculaires d'endocrisines Fournier (parathyroïde) à cinq jours d'intervalle chacune.

2° Un traitement à l'uvestérol irradié: LX gouttes par jour pendant vingt jours (en commençant par XX et en augmentant progressivement), puis dix jours de repos et recommencer.

Lorsqu'elle, revient, en Septembre, elle fait six séances de radiothérapie (M. Giraudeau).

Trois séances d'irradiation intra-buccale, sur la muqueuse palatine, les 6, 13 et 20 Octobre 1932, à raison de 2 H par séance avec filtre de 10/10 aluminium. Il en est résulté un léger érythème de la muqueuse.

Trois séances d'irradiation extra-buccale, les 27 Octobre, 17 et 24 Novembre 1932, à raison de 2 H par séance, filtre 20/10 aluminium.

En Avril 1933, elle nous écrit qu'elle vient de faire une hémorragie intestinale. Nous apprenons de son médecin qu'elle a été opérée pour une sigmoïdite chronique et qu'elle présentait en outre un petit kyste de l'ovaire (colopexie et ablation de l'ovaire gauche).

Lorsque nous la voyons en Mai, elle est complètement rétablie. Localement, il n'y a pas d'accroissement de la tuméfaction, peut-être même une légère diminution.

La première grosse molaire supérieure gauche a été dévitalisée pour une carie.

En Septembre, à son retour de vacances, nous demandons divers examens:

Examen de sang (fait dans le service du prof. Gougerot par Mlle Andréani).

Globules rouges, 4.050.000; globules blancs, 6.100. Polynucléaires neutrophiles, 63 pour 100; polynucléaires basophiles, 0; polynucléaires éosinophiles, 1,5 pour 100.

Mononucléaires grands, 5; mononucléaires moyens, 20; lymphocytes, 10.

Coagulation, douze minute; saignement, trois minutes (Dücke).

Bordet-Wassermann: H 8; D: 8; H: H 8; K.

Un métabolisme basal:—48,82.

Un dosage du calcium dans le sang: 0,103.

Elle commence un traitement avec de l'opothérapie pluriglandulaire.

Le 17 Février 1934, les lésions locales sont stationnaires. Le maximum de la tuméfaction est nettement en regard de la canine qui est mortifiée. La dent est trépanée, traitée par la haute fréquence et obturée.

En cours de traitement, le 21 Février 1934, nous demandons des radiographies qui nous montrent:

1° La persistance d'un état floconneux de l'os, dû non pas seulement à la présence de zones de décalcification, mais aussi à l'existence de zones de condensation osseuse, en particulier à l'apex de la première prémolaire.

2° Un petit granulome, à l'apex de la canine, de la grosseur d'un petit pois, et cerclé par une zone mince de condensation osseuse.

Nous ne conseillons pas une intervention chirurgicale modelante.

OBSERVATION II.—M. Ch. . . , 46 ans, nous est confié, le 24 Mars 1933, par M. Psaume pour confirmer le diagnostic d'ostéite fibreuse du maxillaire supérieur gauche. Il raconte avec complaisance son passé pathologique. Nous retiendrons seulement qu'il est soigné depuis plusieurs années pour des bourdonnements d'oreille, surtout à gauche, provoqués, dit-il, par les bouchons de cérumen.

Durant ces dernières années, il a fait faire de multiples examens:

En Septembre 1922: un examen complet d'urines négatif.

En Septembre 1926: des réactions de Hecht-Wassermann négatives.

En Juillet 1931, il accuse une grande fatigue générale, nouvel examen d'urines et du sang (Wassermann), avec un résultat négatif.

En Avril-Mai 1932, nouvelles analyses.

Sang: hémoglobine, 95 pour 100; globules rouges, 4.780.000; globules blancs, 6.000; valeur globulaire, 0,97; temps de coagulation, trente secondes (tubes capillaires).

Conclusions: ni anémie vraie, ni maladie du sang. Coagulation très rapide.

Urée dans le sang: 0 gr. 52.

Pendant trois mois, on le soumet à un régime hypoazoté.

En Août 1932, il fait une saison à Vichy, après laquelle il se sent beaucoup mieux.

Aujourd'hui, ce qui l'inquiète, c'est une déformation de la face qui s'est constituée insidieusement dans le courant de ces derniers mois.

En effet, chez ce malade, légèrement obèse, au visage blafard, on est frappé par une légère asymétrie de la face: la joue gauche est plus saillante que la droite.

Les téguments qui ont conservé leur aspect et leur consistance normaux sont soulevés par l'hypertrophie de l'os. Après ouverture de la bouche, normale, on se rend compte que cette hypertrophie du maxillaire supérieur gauche, respectant la région palatine, est évidente dans le vestibule où la table externe fait une saillie anormale depuis la tubérosité du maxillaire jusqu'à la canine droite, avec maximum dans la région molaire.

La muqueuse est à ce niveau d'aspect normal. La palpation, indolore, révèle une consistance uniforme osseuse.

Les dents sont au complet sur l'arcade supérieure: elles paraissent peut-être plus courtes du côté gauche en raison d'une légère hypertrophie de la muqueuse. En outre, il existe une gingivo-arthrite nettement plus marquée à gauche: les 3 dernières molaires supérieures gauches sont légèrement mobiles. Au maxillaire inférieur, la denture dans son ensemble paraît excellente: à gauche la première molaire a été extraite il y a plusieurs années, la dent de sagesse en malposition présente une mobilité importante. L'examen de la cavité buccale est par ailleurs complètement négatif.

En résumé, il s'agit incontestablement d'une ostéite fibreuse du maxillaire supérieur gauche chez un malade qui présente en outre une pyorrhée dont les lésions sont plus accentuées à gauche. Nous demandons une radiographie, des examens de sang et conseillons une biopsie pour confirmer le diagnostic.

Examens de sang:

Coagulation sur lames: *trente-cinq minutes*, donc notablement retardée.

Coagulation dans l'éprouvette: *quarante-cinq minutes*, donc notablement retardée. Caillot et sérum à peu près normaux.

Temps de saignement: cinq minutes, donc allongé (normale trois minutes). Calcémie: 0,095.

Métabolisme de base très légèrement abaissé (33,9 au lieu de 36).

Les radiographies montrent: Un aspect floconneux de la région molaire et prémolaire, les zones de décalcification prédominant aux apex des 3 molaires et de la première prémolaire. Légère décalcification dans la région incisive, résorption assez accentuée du bord alvéolaire.

Le 8 Avril, le malade revient après avoir subi un traitement préparatoire au chlorure de calcium. Il semble que la tuméfaction a un peu augmenté; les dents de l'hémi-maxillaire supérieur gauche sont très mobiles. Nous nous contentons de faire un nettoyage et une cautérisation des gencives à l'acide trichloro-acétique et conseillons l'extraction des 2 dents de sagesse gauches avant la biopsie. Le 12 Avril extraction de la dent de sagesse inférieure gauche (la dent de 12 ans est également très mobile).

Le 14 Avril extraction de la dent de sagesse supérieure.

Le 24 Avril: biopsie sous anesthésie locale.

Après incision de la fibro-muqueuse, celle-ci est ruginée et réclinée. Le ciseau-burin, manié à la main, après avoir traversé une mince corticale on trouve un os très spongieux dont il est très facile de prélever un fragment.

Suites opératoires excellentes.

Le fragment a été sectionné en 2 morceaux qui ont été confiés à 2 histologistes:

M. Oberling nous a donné le compte rendu suivant:

Le prélèvement comporte un fragment de tissu osseux qui se montre complètement remanié par un processus d'ostéite chronique; l'ancienne corticale est en grande partie détruite, les travées osseuses néoformées sont de formes extrêmement irrégulières et montrent fréquemment des structures en mosaïque; on ne constate pas de lisérés ostéoïdes. La moelle est partout fibreuse et très riche en myéloplaxes.

Il s'agit donc indiscutablement d'un processus, qui, du point de vue purement terminologique, doit être considéré comme *ostéite chronique fibreuse*; mais, je ne crois pas qu'il s'agisse d'une ostéite fibreuse dans le sens de Recklinghausen; les travées osseuses néoformées sont beaucoup plus irrégulières que dans cette affection et évoquent davantage l'image d'une *lésion inflammatoire locale ou d'une maladie de Paget*.

Mlle H. Dobkevitch (laboratoire de M. Civatte) a répondu: "L'examen histologique montre un tissu d'inflammation avec forte réaction de sclérose, et dans lequel on retrouve quelques travées osseuses déshabitées et séquestrées en voie de désintégration. Il s'agit là d'un *processus inflammatoire d'ostéite chronique*."

Nous avons revu le malade depuis, à diverses reprises: aucun changement. La déformation n'est pas suffisante pour nécessiter une intervention chirurgicale modelante.

OBSERVATION III.—Mme D. . . , 28 ans, nous est adressée le 21 Novembre 1933 par son médecin pour extraction de nombreuses racines qui la font souffrir. Elle a toujours eu de mauvaises dents, mais surtout depuis son accouchement.

A l'examen, extérieurement, rien d'apparent: ni fluxion, ni adénopathie. Dès l'ouverture de la bouche, on est frappé:

1° *Par le mauvais état de la denture*: Au maxillaire supérieur, seules les dents antérieures (de canine à canine) sont saines. Prémolaires et molaires sont réduites à l'état de racines infectées; au maxillaire inférieur, du côté gauche manquent les deux premières grosses molaires; du côté droit, toutes les dents sont saines sauf la deuxième prémolaire; la première et la deuxième grosse molaire qui sont réduites à l'état de racines infectées.

2° *Par l'hypertrophie des bords alvéolaires* qui portent les racines infectées. Cette augmentation de volume s'est faite (depuis l'accouchement, dit la malade), dans le sens transversal et dans le sens vertical, au point que les racines du maxillaire supérieur sont en contact avec celles du maxillaire inférieur. La muqueuse est normale. Aucune douleur à la palpation qui révèle la consistance habituelle de l'os.

L'examen de la cavité buccale n'offre par ailleurs rien de particulier à signaler.

En dehors des zones de raréfaction osseuse périapicale, sur les racines infectées, les radiographies montrent un os dense avec des trabécules extrêmement serrées.

L'examen général est négatif. La malade est mariée; son mari est bien portant. Elle n'a pas eu de fausse couche. Un enfant venu à terme, âgé de 22 mois et en bonne santé. Accouchement normal. Allaitement maternel, puis artificiel, en raison de l'apparition d'eczéma. Aussitôt après l'accouchement, gros amaigrissement.

Pas de signes cliniques d'hémogénie.

Les examens de sang donnent:

Réactions sérologiques (Bordet-Wassermann, Hecht, Desmoulières, Kahn), négatives.

Hématies, 4.600.000; leucocytes, 5.800.

Temps de saignement, quatre minutes; temps de coagulation, six minutes.

Le 30 Novembre, sous anesthésie locale, extraction des racines infectées du maxillaire supérieur gauche. L'intervention est difficile car les racines sont solidement implantées dans un os dense. Curettage des fongosités intra-alvéolaires. Résection modelante, à la pince-gouge, des bords alvéolaires. Suture. Suites opératoires excellentes.

Le 7 Décembre, même intervention du côté droit. Même os compact. Suture. Suites opératoires excellentes.

Le 14 Décembre, même intervention au maxillaire inférieur droit sous anesthésie régionale. Suture. Suites opératoires excellentes.

Les trois interventions ont été précédées d'un traitement général hémostatique. Des fragments osseux prélevés ont été examinés par Mlle H. Dobkevitch dans le laboratoire du Dr Civatte.

"Ils montrent des travées osseuses extrêmement épaisses; ces travées présentent des stries parallèles correspondant à des apports successifs de calcium. L'os n'est pas nécrotique. Les ostéoblastes sont bien vivants et colorables. Sur les bords d'une des préparations, on trouve cependant quelques microséquestres en voie de destruction.

"Le tissu méculleux est normal sur un des fragments, nettement fibreux sur l'autre. On ne trouve pas d'inflammation.

"L'aspect de ces préparations rappelle ce qu'on voit dans certaines dystrophies du type de la *leontiasis ossea*, en particulier."

Dans les 3 observations, il s'agit cliniquement d'ostéite hypertrophiante localisée des maxillaires (avec prédominance au maxillaire supérieur).

Les symptômes, l'évolution et les images radiographiques rappellent celles de l'ostéite fibreuse.

Mais il existe 3 affections cliniquement assez voisines (thèse de Ruppe) que les auteurs ne différencient pas toujours nettement les unes des autres: l'*ostéofibrome des maxillaires*, l'*hyperplasie chronique du maxillaire supérieur* (Dawson et Struthers pensent que cette hyperplasie est intermédiaire entre l'ostéite fibreuse reliquat d'inflammation chronique et l'ostéite fibreuse dystrophie osseuse) et l'*ostéite fibreuse localisée*. Pour cette dernière, Ruppe, envisageant dans la discussion de la pathogénie la théorie inflammatoire qu'il combat, reconnaît cependant "qu'il faudrait, pour éliminer avec certitude l'origine inflammatoire de la maladie, avoir pratiqué des biopsies au début de celle-ci et avoir retrouvé la même image d'ostéite fibreuse".

Aussi bien, on peut se demander si l'histologie suffit à démarquer ces tumeurs les unes des autres. Le problème est complexe puisque, pour 2 de nos malades, les examens faits par 2 anatomo-pathologistes, sur des fragments provenant de la séparation en deux du même bloc osseux, ont donné lieu à des interprétations dissemblables. D'autre part, chez le troisième malade, alors que cliniquement l'élément infectieux est certain, l'examen histologique ne permet pas de retrouver des signes nets d'inflammation, et oriente le diagnostic vers la *leontiasis ossea*.

Devant l'impossibilité d'aboutir à une classification histologique, nous avons cherché les liens qui pouvaient unir ces lésions. Or, nous avons pu mettre en évidence chez nos malades les faits suivants:

1° *L'existence de lésions inflammatoires gingivo-dentaires*: complications de la carie dentaire ou d'un processus pyorrhéique. Toute autre lésion irritative (traumatisme par exemple) pourrait peut-être produire les mêmes réactions.

2° *La constatation de troubles sanguins*: légère anémie, troubles du temps de la coagulation ou du temps de saignement.

Ces troubles sont évidents dans la deuxième observation. Il est même curieux de constater que chez ce malade, dont nous connaissons l'état sanguin avant l'apparition de la tuméfaction, le développement de celle-ci a coïncidé avec la modification de la crase sanguine.

Pour les 2 autres, les faits ne sont pas aussi précis; lorsque nos examens ont été faits, les anomalies sanguines avaient disparu. Mais il importe de souligner que: chez la première, le nombre des globules rouges est à la limite de la normale. L'évolution de la colite hémorragique est aussi à retenir, puisque, dans une observation récente de cette affection, Morenas a pu déceler une hémogénie. Il n'est d'ailleurs pas impossible que les troubles sanguins soient intermittents (ceci est bien connu pour les règles).

Chez la troisième, l'hypertrophie s'est développée après une grossesse, mal supportée. Or, souvent la gravidité s'accompagne d'anémie passagère.

Peut-on de l'observation de ces faits tirer des conclusions?

Il semble logique de croire que ces ostéites hypertrophiantes des maxillaires ne sont pas uniquement des dystrophies osseuses, mais des tumeurs hyperplasiques sous la dépendance d'une irritation locale et d'un trouble de la crase sanguine.

Ces affections se superposent ainsi avec les tumeurs hyperplasiques des gencives, plus connues sous le nom d'épulis¹.

Les modalités de ces réactions sont très variées, ainsi que nous le montrerons ultérieurement avec d'autres observations (tumeur à myéloplaxes, pseudo-sarcome. . .).

Comme l'a dit Leriche, "la maladie n'est que l'aboutissant d'une déviation minime de la physiologie des tissus, provoquée par des agents extérieurs ou née de simples désordres fonctionnels", à moins que ce ne soit de la combinaison des deux causes.

Cette pathogénie nous explique facilement toutes les variétés d'évolution et notamment: le développement progressif aussi longtemps que dure le trouble sanguin, la stabilisation lorsque celui-ci disparaît, la récurrence après intervention lorsqu'il persiste. L'influence heureuse de la radiothérapie dans certains cas n'est pas en contradiction avec ces données; il est rare qu'elle amène une disparition complète de la tumeur.

Quant à l'étiologie du trouble sanguin, elle est variable et il n'est pas toujours aisé de la mettre en évidence.

Les intoxications sont exceptionnelles; *l'hémogénie* ou *les affections congénitales voisines* ne semblent pas le plus souvent en cause.

Certains états physiologiques comme la grossesse déterminent un déséquilibre endocrinien, d'où il résulte des troubles variés, dont l'anémie (La ménopause agit peut-être de façon analogue).

De nombreux états pathologiques conditionnent aussi des troubles sanguins. Nous avons vérifié cette étiologie dans les épulis pour: les affections génitales; les avortements et les métrorragies, les salpingites. . . qui déterminent en général des anémies; les affections hépatiques; quelle que soit leur nature (cholécystite. . .) elles s'accompagnent souvent d'allongement du temps de saignement ou de coagulation.

Toutes les infections chroniques (banales, tuberculose, syphilis), toutes les supurations prolongées ont un retentissement sur l'état général. L'anémie, fréquente dans ces conditions, semble expliquer la production des lésions végétantes.

En dehors de l'examen systématique du patient, peut-être l'interférométrie pourrait-elle nous permettre de préciser quelle est la glande à sécrétion interne qui est à l'origine de ces désordres².

Mais ce qui compliquera toujours la recherche de cette étiologie, c'est que, comme nous l'avons dit, le trouble sanguin qui a conditionné l'évolution de la tumeur hyperplasique a pu être passager. Il faut donc juger à distance, d'après les anamnestiques, ce qui est infiniment délicat.

EN RESUME, sous le nom de tumeurs hyperplasiques de maxillaires, il semble qu'on puisse grouper les ostéites fibreuses localisées, les ostéo-fibromes. . . Ces lésions, qu'on s'est, jusqu'à présent, attaché à différencier par des formules histologiques, semblent sous la dépendance d'une irritation locale et d'un trouble sanguin, ce qui justifierait à leur égard un traitement médico-chirurgical.

(La Presse Médicale)

La deuxième réponse à la question posée en novembre, au sujet de l'extraction de dents de six ans sera donnée en janvier faute d'espace.

7 DAYS

THIS BOOK MAY BE KEPT FOR
7 DAYS ONLY
IT CANNOT BE RENEWED

JUL 6 - 1993

MAY 15 2008

RK
1
C37

Canadian Dental Association
Journal

De

438592

Journal.
al Association. v.10(1944)

NAME OF BORROWER.

Dr. J. A. [unclear]

Island

London

see 10.

John

438592

